

## **Chapter 1**

### **INTRODUCTION**

The MICRO ATX VI16 mainboard is a high-performance all-in-one system mainboard. This mainboard supports Intel® Pentium® processor/Pentium® processor with MMX™ technology, Cyrix®/IBM® 6x86/6x86L/6x86MX/MII, and AMD® K6/K6-2/K6-III processors.

The mainboard uses the highly integrated Apollo MVP4. The Apollo MVP4 is a PC Socket-7 system logic North Bridge with integrated 2D/3D Graphics Accelerator. The core logic portion of the chip is based on the popular 100MHz VIA Apollo MVP3 chipset with enhanced features and graphics accelerator based on the Cyber9398DVD from Trident Microsystems. The VT82C686A Super I/O PCI integrated Peripheral Controller (PSIPC) is a high integration, high performance, power efficient and high compatibility device that supports Intel and non-Intel based processors plus PCI bus bridge functionality to make a complete Microsoft PC98-compliant PCI/ISA system. The VT82C686A supports PCI-to-ISA bus controller, four USB ports, dual bus-master IDE with Ultra DMA33/66, AC97 Basic Audio, System Hardware Monitoring, and integrated “Super I/O functionality”.

This Mainboard with Apollo MVP4 coupled with VT82C686A is a ideal performance energy efficient, and highly integrated computer systems.

## **1.1 Mainboard Features**

### **CPU**

- Socket 7 supports Intel® Pentium® processor with MMX™ technology.
- The Cyrix® 6x86/6x86L/6x86MX/MII and AMD® K6/K6-2/K6-III processors are also supported.

### **Chipset**

- VIA® VT82C501(MVP4) chipset. (North bridge)
  - support 66/100MHz FSB
  - integrated AGP 2D/3D Graphics Accelerator
  - support PC66/PC100 SDRAM memory module
  - 493 BGA package
- VIA® VT82C686A chipset. (South bridge)
  - PCI Super I/O Integrated
  - integrated SoundBlaster/Direct Sound AC97 Audio
  - UltraDMA-33/66
  - 352 BGA package

### **FSB (Front Side Bus)**

- 66/75/83.3/95/100MHz clocks are supported.

### **Main Memory**

- Supports a maximum memory size of 512MB.
- Supports four memory banks using two 168-pin DIMM sockets.
- Supports 3.3v SDRAM.

### **Slots**

- One AMR (Audio Modem riser) slot and one PTI (PanelLink TV-Out Interface) slot.
- Three 32-bit Master PCI Bus slots and one 16-bit ISA bus slot. (wherein one PCI/ISA is shared)
- Supports 3.3v/5v PCI bus Interface.

**On-Board IDE**

- An IDE controller provides IDE HDD/CD-ROM with PIO, Bus Master and UltraDMA-33/66 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.
  - 1 serial ports (COMA)
  - 1 parallel port supports SPP/EPP/ECP mode
  - 2 USB ports
  - 1 IrDA connector for SIR.
  - 1 AMR
  - 1 VGA Port
  - 1 PTI

**Video**

- MVP4 chip integrated
- AGP 2D/3D Graphics

**Audio**

- chip integrated
- DirectSound AC97 Audio

**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**

- MICRO ATX Form Factor: 24cm(L) x 19.2cm(W) x 4 layers PCB

**Mounting**

- 6 mounting holes.

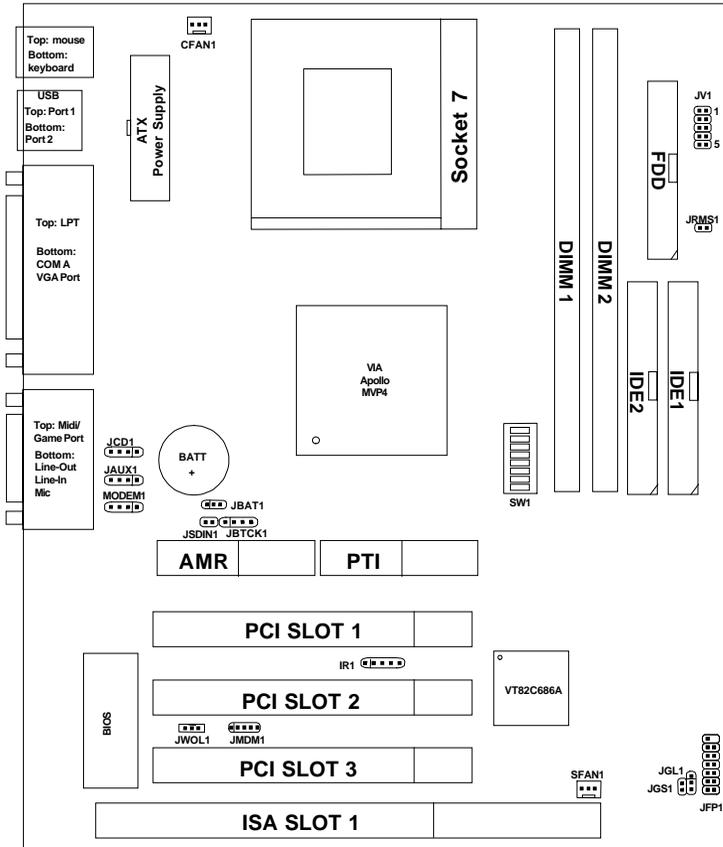
**System Hardware Monitor (optional)**

- CPU 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**

- LAN Wake-Up
- Internal/External Modem Wake-Up

## 1.2 Mainboard Layout



MS-5187 MICRO ATX VI16 Mainboard