

## **Chapter 1**

### **INTRODUCTION**

The MS-6309 ATX VA5 mainboard is a high-performance computer mainboard based on VIA® VT82C694X chipset. The MS-6309 is designed for the Intel® Celeron™ or Coppermine(FC-PGA) processor for inexpensive business/personal desktop markets.

The Apollo Pro133A (VT82C694X) is a Socket-370 system logic north bridge with the addition of 133 MHz capability for both the CPU and SDRAM interfaces. Apollo Pro133A may be used to implement both desktop and notebook personal computer systems from 66MHz to 133MHz based on Socket-370 (Intel Celeron processors). The primary features of the Apollo Pro133A-North Bridge are: Slot-1 or Socket-370 CPU (Front Side Bus) Interface (66 / 100 / 133MHz), DRAM Memory Interface (66 / 100 / 133MHz), AGP Bus Interface (66MHz), PCI Bus Interface (33MHz), Mobile Power Management.

The VT82C686A PSIPC (PCI Super-I/O Integrated Peripheral Controller) is a high integration, high performance, power-efficient, and high compatibility device that supports Intel and non-Intel based processor to PCI bus bridge functionality to make a complete Microsoft PC99-compliant PCI/ISA system.

## **1.1 Mainboard Features**

### **CPU**

- Socket 370 for Intel® Celeron™/ Coppermine processor.
- Supports 233MHz, 266MHz, 300MHz, 333MHz, 350MHz, 400MHz, 450MHz, 500MHz, 533MHz...667MHz or faster processor.

### **Chipset**

- VIA® 694X chipset. (510 BGA)
  - P-II FSB @ 133MHz
  - AGP 4x and PCI plus Advanced ECC Memory Controller
  - Support PC100/133 SDRAM, VCM technology
- VIA® VT82C686A chipset. (352 BGA)
  - Advanced Power Management Features
  - Integrated Super I/O (FDC, LPT, COM 1/2, and IR)
  - DirectSound AC97 Audio
  - Dual bus Master IDE Ultra DMA33/66
  - ACPI

### **Clock Generator**

- 66.6 and 133MHz clocks are supported.

### **Main Memory**

- Support six memory banks using three 168-pin unbuffered DIMM.
- Support a maximum memory size of 1.5GB (32M x 8).
- Support ECC(1-bit Error Code Correct) function.
- Support 3.3v SDRAM DIMM.

### **Slots**

- One AGP(Accelerated Graphics Port) slot.
    - AGP specification compliant
    - AGP 66MHz 3.3v/1.5v for 2x/4x device support
  - One AMR (Audio Modem Riser) slot.
  - Five 32-bit Master PCI Bus slots and one 16-bit ISA bus slots wherein one shared slot can be used as ISA or PCI.
  - Supports 3.3v/5v PCI bus Interface.
-

**On-Board IDE**

- An IDE controller on the VIA® VT82C686A Chipset provides IDE HDD/CD-ROM with PIO, Bus Master and Ultra DMA 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.
  - 2 serial ports (COMA + COMB)
  - 1 parallel port supports SPP/EPP/ECP mode
  - 2 USB ports
  - 1 IrDA/HP connector for SIR.

**Audio**

- Chip Integrated
- Creative CT5880 Hardware Audio (optional)
  - If Creative CT5880 Hardware audio is onboard. Then, only 4 PCI slot will be master slot. The remaining 1 slot will be slave slot.

**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.

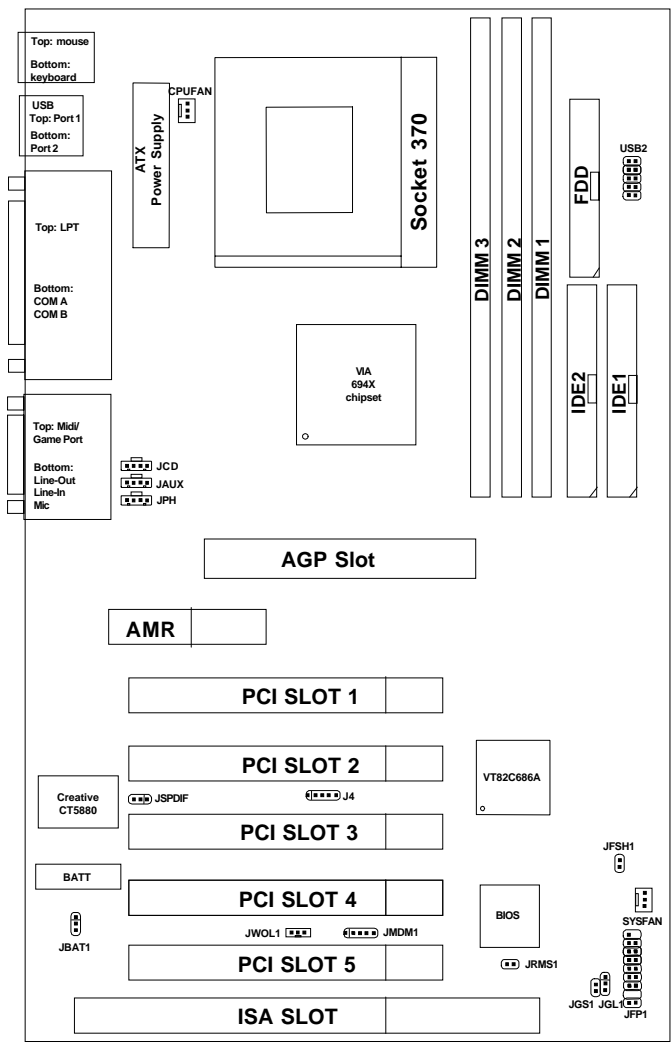
**Dimension**

- ATX Form Factor : 30.5cm(L) x 19.2cm(W) x 4 layers PCB

**Mounting**

- 6 mounting holes.

1.2 Mainboard Layout



MS-6309 ATX VA5 Mainboard