

Chapter 1

INTRODUCTION

The MS-6309 Lite ATX VA5 mainboard is a high-performance computer mainboard based on VIA® VT82C694X chipset. The MS-6309 Lite 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. 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. It supports ACPI and **Ultra-DMA-33/66** IDE which transfers data at the rate of **33/66MB sec**.

The optional **VT82C686B** integrates all system control functions such as ACPI (Advanced Configuration and Power Interface). The ACPI provides more Energy Saving Features for the OSPM (OS Direct Power Management) function. The chipset also improves the IDE transfer rate by supporting **Ultra DMA-33/66/100** IDE which transfers data at the rate of **33/66/100MB sec**.

This mainboard which supports VIA® 694X and **VT82C686A/686B** is ideal for high performance and high quality desktop PCI/ISA computer systems.

Mainboard Features

CPU

- Socket 370 for Intel® Celeron™/ Coppermine processor.
- Supports 233MHz, 266MHz, 300MHz, 333MHz, 350MHz, 400MHz, 450MHz, 500MHz, 533MHz...1GHz 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)
 - Dual bus Master IDE Ultra DMA33/66
 - DirectSound AC97 Audio
 - ACPI
- VIA® VT82C686B chipset. (352 BGA) (**optional**)
 - Enhanced Power Management Features
 - Integrated Super I/O (FDC, LPT, COM 1/2, and IR)
 - Dual bus Master IDE Ultra DMA33/66/100
 - Integrated Hardware Soundblaster
 - Direct Sound AC97 Audio
 - ACPI

Clock Generator

- 66.6MHz, 100MHz and 133MHz clocks are supported.

MainMemory

- 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 (for VIA® VT82C686A)

- 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 IDE (for optional VIA® VT82C686B)

- An IDE controller on the optional VIA® **VT82C686B** Chipset provides IDE HDD/CD-ROM with PIO, Bus Master and Ultra DMA *33/66/100* 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

Audio

- Chip Integrated (Software Audio)
 - AC'97 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.

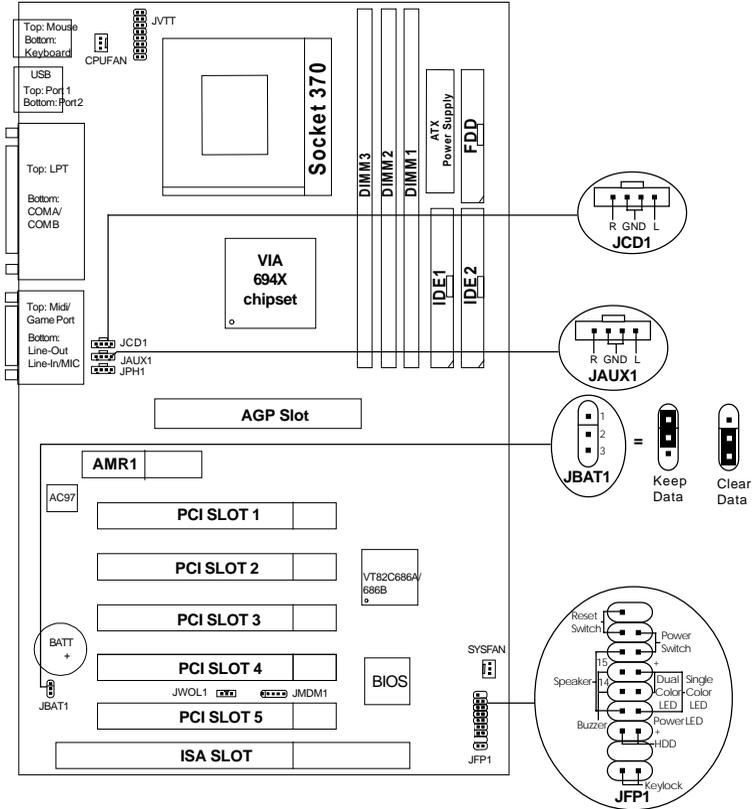
Dimension

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

Mounting

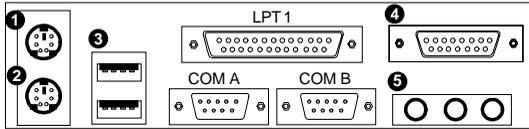
- 6 mounting holes.

Mainboard Layout

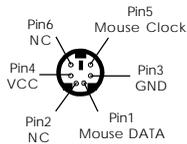


MS-6309 Lite ATX VA5 Mainboard

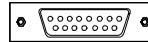
Mainboard Connectors



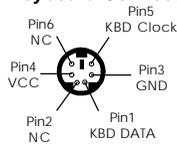
1 Mouse Connector



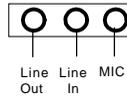
4 Joystick/MIDI



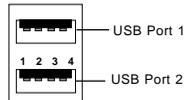
2 Keyboard Connector



5 Audio Ports



3 USB Ports



PIN	SIGNAL
1	VCC
2	-Data
3	+Data
4	GND