

Overview

The VA-503A is a Baby AT-sized Super 7 solution offering high performance, the highest speed of super 7 processors and the very best in onboard features. It supports the Pentium MMX, AMD K6, AMD K6-2, Cryix MII 300-400MHz, IBM, IDT WinChip processors, and significantly, **the new AMD K6-III 400/450 MHz*** processors with 66/75/83/95/100MHz Front Side Bus support.

The VA-503A is based around the **VIA MVP3** and **Super South** chipset, giving advanced performance with high quality audio/visual capabilities on a socket 7 platform. The VA-503A comes with a standard 1MB (manufacturing option: 2MB/512KB)* of onboard cache.

The Super South chip is a PC98 compliant PCI Super-I/O integrated peripheral controller with integrated super-I/O, integrated **sound blaster/direct sound AC97 audio**, and **ultra DMA-33/66**. The VA-503A also comes equipped with master mode PCI-EIDE controller, **USB controller (with four USB ports support)**, keyboard controller, RTC, plug and play, enhanced power management, and **temperature, voltage, and fan-speed monitoring**.

The VA-503A has 3 DIMM for up to 768 MB SDRAM, and comes with ECC memory support. It is equipped with 1 AGP, 4 PCI, 1 ISA and **1 AMR** expansion slot. The VA-503A is fully PC98 and Y2K compliant, and is ACPI ready, ensuring improved energy efficiency. Other features include Wake-On-LAN, IrDA, Intel LDCM software (manufacturing option)* and CD Pro with enhanced drivers.

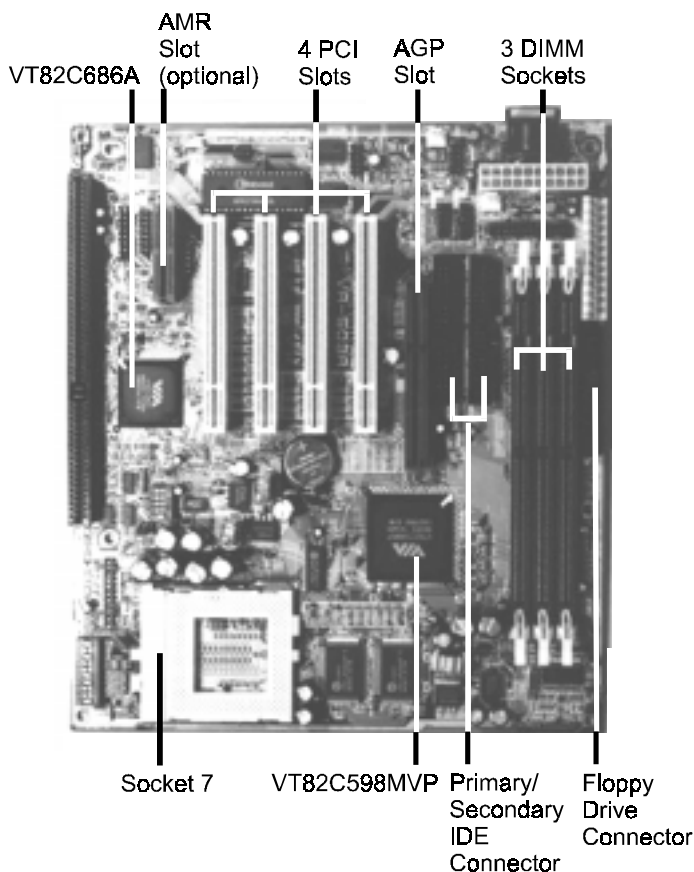
** For features offered as a manufacturing option, please refer to the detailed specifications to establish which option is installed on this mainboard.*

Package Checklist

If you discover any item below was damaged or lost, please contact your vendor.

- ö The VA-503A mainboard
- ö Software utilities
- ö This user manual
- ö One USB cable
- ö One floppy disk drive cable
- ö One printer and COM1 cable
- ö One HDD cable
- ö One PS/2 mouse and COM2 cable
- ö One audio riser card (optional)

The VA-503A Mainboard



NOTE: On the upper-left corner the photo above, the AC_LINK Connector, GAME Connector, and AMR Slot are manufacturing optional.

Main Features

■ Easy Installation

BIOS with support for Plug and Play, auto detection of IDE hard drives, LS-120 drives, IDE ZIP drives, Windows 95, Windows 98, Windows NT, and OS/2.

■ Leading Edge Chipset and Super South

VIA APOLLO MVP3 chipset with integrated DRAM and Level 2 cache controllers as well as support for Intel's new Dynamic Power Management Architecture (DPMA), Concurrent PCI (PCI 2.0 and 2.1), AGP 1.0 compliant, and USB.

■ Flexible Processor Support

Onboard 321-pin ZIF socket and switching voltage regulator support complete range of leading-edge processors:

Intel Pentium 100/133/166/200/233 MHz;

Intel Pentium MMX 166/200/233 MHz.

AMD-K6-166 / 200 / 233 / 266 / 300 MHz; and K6-3/400 MHz;

K6-2-266 / 300 / 333 / 350 / 366 / 380 / 400 / 450 MHz.

Cyrix M II-300 / 333 / 350 MHz; and

Cyrix 6x86MX- PR166 / 200 / 233 / 266 / 300 / 333 / 350 MHz;

Cyrix 6x86L- PR166+ / PR200+ MHz.

IBM 6x86MX- PR166 / 200 / 233 / 266 / 300 / 333 / 350 MHz;

IBM 6x86L- PR166+ / PR200+ MHz.

■ Various External Bus and CPU/Bus Frequency Ratio Support

The board supports the Bus frequency of 66 / 75 / 83 / 95 / 100 / 112 / 124MHz and the CPU/Bus frequency ratio of 2x / 2.5x / 3x / 3.5x / 4x / 4.5x / 5x / 5.5x by a switching voltage regulator which accepts 1.8V to 3.5V. (Please read **Install the CPU** in Chapter 2 for more information).

■ Ultra-fast Level II Cache

Supports 512KB / 1MB / 2MB onboard Pipeline Burst Level II write-back cache.

■ **Versatile Main Memory Support**

Accepts up to 768MB RAM using three DIMMs of 8, 16, 32, 64, 128, 256MB with support for lightning-fast SDRAM (66/100MHz).

■ **AGP, ISA, and PCI Expansion Slots**

One 32-bit AGP Bus, one 16-bit ISA Bus, and four 32-bit PCI Bus expansion slots provide the room to install a full range of add-on cards.

■ **Enhanced PCI Bus Master IDE Controller with Ultra DMA/33 and Ultra DMA/66 Support**

Integrated Enhanced PCI Bus Master IDE controller features two dual-channel connectors that accept up to four Enhanced IDE devices, including CD-ROM and Tape Backup Drives, as well as Hard Disk Drives supporting the new Ultra DMA/66 protocol. Standard PIO Mode 3, PIO Mode 4, DMA Mode 2, DMA Mode 4 devices are also supported.

■ **Super Multi I/O**

Integrated VIA VT82C686A Plug and Play multi-I/O chipset features two high-speed UART 16550 compatible serial ports, one SIR (IrDA) port, one EPP/ECP/SPP capable parallel port, and one FDD connector.

■ **Onboard IrDA Connector**

An IrDA connector for wireless infrared connections is available.

■ **USB Fly Support**

A fly cable comes with the board for allowing convenient, high-speed Plug and Play connections (up to four USB ports) to the growing number of USB compliant external peripheral devices on the market.

- **AMR Slot and Audio Riser Card (optional)**

The board optionally equips AMR slot and come with an audio riser card to give you the access to hardware most suitable by supporting next generation, audio-intensive PC applications such as DVD, 3D multi-player gaming, and interactive music, while the latest, high-quality audio or a locally certified modem can easily be added to the board based on your needs.

Intelligent Properties

- **Optimized MMX Performance**

The mainboard utilizes the advanced features of the VIA APOLLO MVP3 chipset to optimize the unrivaled performance of the Intel Pentium processor with MMX technology. To provide you with additional flexibility, the mainboard also supports other leading-edge processors featuring MMX technology, including the AMD-K6, Cyrix MII, IBM MII, IDT WinChip processors.

- **Onboard Accelerated Graphics Port (AGP)**

The mainboard is installed one 32-bit AGP bus with a dedicated 66MHz/133MHz path from the graphics card to the system memory (by 1x/2x mode) offering much greater bandwidth than the 32-bit PCI bus does which currently operates at a speed of 33MHz and is fully compliant with the AGP 1.0 specification. AGP enabled 3D graphics cards can directly access main memory across this fast path instead of using local memory. To make use of the improved AGP performance, the mainboard should be installed with SDRAM type memory and the VGA card and drivers should also be fully AGP compliant. Using Microsoft's Windows 98 and Windows NT 5.0 which implement DirectDraw will allow the system to take full use of AGP's benefits without the need to install additional drivers.

■ CPU Thermal Monitoring Alert

The onboard Super South bridge (VIA VT82C686A) contains a thermal alarm on either or any combination of three internal temperature sensing circuits to make sure the system is operating at a safe heat level. When the temperature is overheat, the system warns you the the CPU is overheating. The CPU utilization is restored to normal levels when the temperature returns to a safe level. This feature requires a power supply with a soft-off power controller.

■ Lightning-Fast SDRAM Performance

The board supports general 66MHz and the new generation of lightning-fast 100MHz SDRAM via its onboard 168-pin DIMM sockets. SDRAM delivers an added boost to overall system performance by increasing the CPU-to-memory data transfer rate. SDRAM performance on the VA-503A is further boosted by the board's integrated I²C controller, which optimizes the memory timing settings.

ACPI Ready

This mainboard fully implements the new ACPI (Advanced Configuration and Power Interface) 1.0 Hardware and BIOS requirement. If you install ACPI aware operating system, such as Windows 98, you fully utilized the power saving under ACPI.

It is compatible with all other none ACPI operating systems. If you want to setup ACPI feature under Windows 98, please follow the description below: Run Windows 98 setup by using **setup/p j** on the command line for installing Windows 98 with the ACPI control feature.

If you type **setup** without the parameter **/p j**, Windows 98 will be installed as APM, PnP mode, no ACPI will be used.

For more detail information, please visit the web site of Microsoft. Its address is: www.microsoft.com/hwtest/.

The major features of ACPI were listed on the next page-

■ Soft-Off Support

The mainboard's Soft-Off feature allows you to turn off your computer using the operating system. This feature requires a power supply with a soft-off power controller.

■ Remote Ring-On

The Remote Ring-On function allows your computer to be turned on remotely via a modem while it is in sleep mode. This feature is particularly useful when you are expecting a fax late at night and leave only your modem on to minimize power consumption. As soon as possible the phone rings, the modem automatically turns on the system, which answers the phone and downloads the fax. Then the computer shuts off again, thereby minimizing its consumption of power. The Remote Ring-On function requires a power supply with a soft-off power controller.

■ RTC Alarm

The RTC alarm feature allows you to preset the computer to wake-up at a certain time allowing you to implement a number of useful functions, such as automatically sending out a fax late at night.

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