

Overview

Based on the new highly-integrated [VIA APOLLO VP3™](#) Chipset, the VA-503 combines blistering Pentium® processor performance with support for intelligent diagnostic and power management features, such as [Hardware Monitoring](#). The new [Accelerated Graphics Port \(AGP\)](#) interface which provides a dedicated path for memory-intensive graphics applications-delivering faster system performance and arcade-quality 3D graphics. The VA-503 has a versatile Baby AT-size platform for leading-edge PC '97 compliant systems.

With its [switching voltage regulator](#), the VA-503 runs a complete range of [Intel Pentium®](#) processors, including the [Intel Pentium processor with MMX™](#) technology, and is easily upgradable to the [Cyrix/IBM MX™](#) and the [AMD-K6™](#). For added power and performance, the VA-503 takes up to [1MB Pipeline Burst Level II](#) cache and up to [512MB DRAM](#) via [four-72 SIMM sockets](#) and [two 168-pin DIMM sockets](#) which accept high-speed EDO, and [lightning-fast SDRAM](#) memory types.

Built on the highly concise Baby AT form factor, the VA-503 integrates a full set of I/O features onboard. It supports Universal Serial Bus through the optional USB riser card providing ease-of-use and high-speed Plug & Play connections to USB compliant peripheral devices. The board also has an integrated [PCI Bus Master Enhanced IDE controller](#) with support for the new [Ultra DMA/33](#) protocol, which doubles ATA-2 Hard Disk Drive data transfer rates to [33MB/s](#) while maintaining full backwards compatibility with existing PIO Mode 3, PIO Mode 4 and DMA Mode 2 devices.

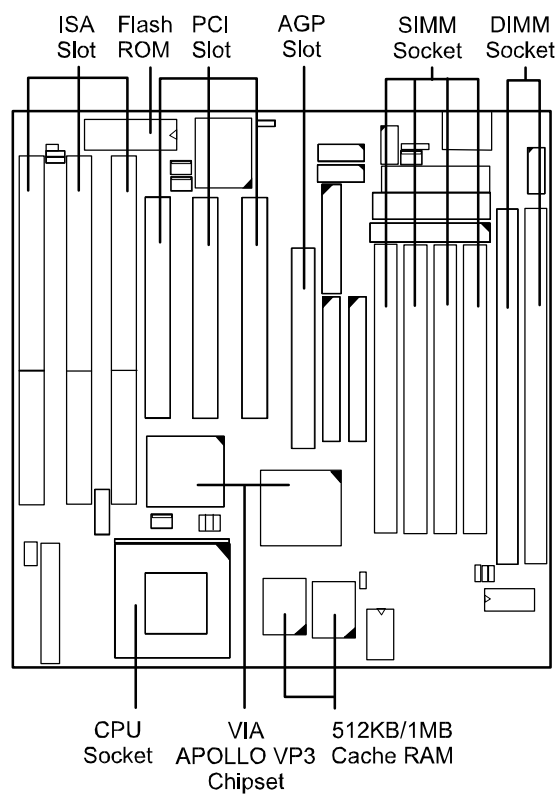
For the most up-to-date information about your mainboard and the latest FAQs and BIOS updates, visit FIC Online at www.fic.com.tw.

Package Checklist

Please check that your package contains all the items listed below. If you discover any item is damaged or missing, please contact your vendor.

- The VA-503 mainboard
- This user manual
- One IDE HDD cable
- One floppy disk drive cable
- One printer and COM1 cable
- One COM2 cable
- One USB riser card (optional)
- One PS/2 mouse cable (optional)
- Software CD-ROM
 - Bus Master IDE Driver
 - VIA INF Update Software
 - AGP VxD Support Utility
 - Anti-Virus Tool
 - Desktop Management Interface (DMI) Software
 - BIOS Flash Software

The VA-503 mainboard



Main Features

■ Easy Installation

BIOS with support for Plug and Play, auto detection of IDE hard drives, LS-120 drives, IDE ZIP drives, MS Windows™ 95.

■ Leading Edge Chipset

VIA APOLLO VP3 chipset with integrated DRAM and L2 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® MMX™ 166/200/233 MHz processors.

AMD-K6™-166 (166 MHz) / K6-200 (200 MHz) / K6-233 (233 MHz) / K6-266 (266 MHz) / K6-300 (300 MHz) processors.

Cyrix 6x86MX™- PR166 (150 MHz) / PR200 (166 MHz) / PR233 (200 MHz) / PR266 (233 MHz) processors.

Cyrix 6x86L™- PR133+ (110 MHz) / 6x86-PR150+ (120 MHz) / 6x86-PR166+ (133 MHz) processors.

IBM 6x86MX™- PR166 (150 MHz) / PR200 (166 MHz) / PR233 (200 MHz) / PR266 (233 MHz) processors.

IBM 6x86L™- PR133+ (110 MHz) / 6x86-PR150+ (120 MHz) / 6x86-PR166+ (133 MHz) processors.

■ Various External Bus and CPU/Bus Frequency Ratio Support

The mainboard supports the Bus frequency of 50 / 55 / 60 / 66 MHz and the CPU/Bus frequency ratio of 1x / 2x / 2.5x / 3x / 3.5x / 4x / 4.5 x / 5x / 5.5x. (Please read **Install the CPU** in Chapter 2 for more information).

■ Ultra-fast Level II Cache

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

- **Versatile Main Memory Support**
Accepts up to 512MB RAM using four SIMMs of 8, 16, 32, 64, 128MB with support for FPM and EDO DRAM and two DIMMs of 8, 16, 32, 64, 128, 256MB with support for EDO DRAM and lightning-fast SDRAM.
- **AGP, ISA, and PCI Expansion Slots**
One AGP, three 16-bit ISA, and three 32-bit PCI expansion slots provide all the room you need to install a full range of add-on cards.
- **Enhanced PCI Bus Master IDE Controller with Ultra DMA/33 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/33 protocol which doubles data transfer rates to 33MB/sec. Standard PIO Mode 3, PIO Mode 4, and DMA Mode 2 devices are also supported.
- **Super Multi I/O**
Integrated Winbond 83877TF™ Plug and Play multi-I/O chipset features two high-speed 16550 compatible serial ports, one EPP/ECP capable parallel port, and one FDD connector.
- **USB Support**
Two USB ports on an optional riser card allow convenient, high-speed Plug and Play connections to the growing number of USB compliant external peripheral devices on the market.
- **Onboard IrDA Connector**
An IrDA connector for wireless infrared connections is available.

Advanced Features

■ Optimized MMX™ Performance

The mainboard utilizes the advanced features of the VIA APOLLO VP3 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 6X86MX™, IBM 6x86MX™ processors.

■ Onboard Accelerated Graphics Port (AGP)

The 32-bit AGP bus provides a dedicated 66MHz/133MHz path from the graphics card to the system memory offering much greater bandwidth than the 32-bit PCI bus does which currently operates at a speed of 33MHz. AGP enabled 3D graphics cards can directly access main memory across this fast path instead of using local memory. This mainboard is fully compliant with the AGP 1.0 specification. 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™ 95 and Windows™ NT 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

An optional EICA CPU fan with a heat sensor monitors the CPU temperature to make sure that the system is operating at a safe heat level. If the temperature is too high, the sensor automatically generates an SMI (System Management Interrupt) to turn on the chassis fan and slow down the CPU clock frequency. At the same time, the system warns you that the CPU is overheating. 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 mainboard supports the new generation of lightning-fast SDRAM (Synchronous Dynamic Random Access Memory) 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 to 528MB/sec compared to 264MB/sec for conventional EDO DRAM. SDRAM performance on the VA-503 is further boosted by the board's integrated I²C controller, which optimizes the memory timing settings.

PC '97 Compliant

This mainboard is fully compliant with the new PC '97 standard at both the BIOS and hardware levels. The system design requirements under PC '97 support a synergy among PC hardware, Microsoft Windows® Operating Systems, and Windows®-based software. Key elements include support for Plug and Play compatibility and power management for configuring and managing all system components, and 32-bit device drivers and installation procedures for both Windows® 95 and Windows® NT.

Infrared Connection

This mainboard features support for highly-sophisticated SIR technology that is fully compliant with the IrDA standard, which allows bi-directional and cordless data transactions with other IrDA compliant computers and peripheral devices using infrared as a medium. An IrDA device can be installed via a 9-pin D-SUB connector in the rear panel of the computer.

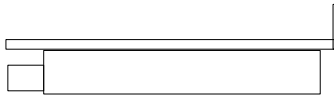
This infrared transmission is carried out in either Full Duplex Mode or Half Duplex Mode. The former allows simultaneous data transmission and reception, while the latter disables the reception when transmission occurs.

Universal Serial Bus (USB) Functionality

This mainboard features integrated support for state-of-the-art USB technology, which provides high-speed and easy-to-use Plug & Play connections to the future generation of external peripherals, such as keyboards, mouse, monitors, game devices, scanners, printers, and fax/modems.

This mainboard features an optional USB riser card with bracket that can be installed in one of the I/O expansion slots on the rear panel of the system, as shown in the illustration below. It provides fast and convenient Plug and Play peripheral connections outside your computer, allowing you take full advantage of the universal functionality and flexibility of USB technology.

To use your USB device, your operating system, such as Win95 OSR2.1 (Win 95B & USB Supplement), must provide USB environment. The optional USB riser card must be installed on JUSB connector (Page 29, Chapter 2), and set USB Controller feature at Enabled (Integrated Peripherals section, Chapter 3). Also, the USB device driver must be installed.



[USB Riser Card's Photo]