

Chapter 2

MS-5186 MAINBOARD INTRODUCTION

The LPX VI15 mainboard is a high-performance all-in-one system mainboard. This mainboard supports Intel® Pentium® processor with MMX™ technology, Cyrix®/IBM® 6x86L/6x86MX/MII, AMD® K6/K6-2/K6-III, and IDT Winchip 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 an ideal performance energy efficient, and highly integrated computer systems.

2.1 Features

CPU

- Socket 7 support Intel® Pentium® processor with MMX™ technology.
- The Cyrix® 6x86L/6x86MX, AMD® K6/K6-2/K6-III and IDT™ WinChip processors are also supported.

Chipset

- VIA® VT82C501(MVP4) AGPset. (North Bridge)
 - Support 66/100MHz CPU Bus
 - Support PC100 SDRAM
 - Integrated 2D/3D graphics with 3Dsetup engine
 - HW DVD Acceleration and advanced Video processor
- VIA® VT82C686 chipset. (South Bridge)
 - Support AC-97 basic audio
 - Integrated Super I/O
 - Integrated HW Monitor
 - High Performance Dual Ultra DMA 33/66 IDE ports
 - Advanced power management

FSB (Front Side Bus)

- 66.6/95/100MHz clocks are supported.

Main Memory

- Support four memory banks using two 168-pin unbuffered DIMM.
- Support a maximum memory size of 256MB DIMM.
- Support 3.3v SDRAM DIMM.

On-Board IDE

- An IDE controller on the VIA® VT82686 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 connectors(COM A + COM B)
 - 1 parallel port supports SPP/EPP/ECP mode
 - 1 USB port
 - 2 IrDA connector for Consumer IR/FIR.
 - 1 Audio port

Audio

- Chip Integrated
 - Compliance to AC-97 V2.0 Specification
 - Support Hardware Sound Blaster-Pro and DOS legacy compatible
 - MPU401 MIDI interface

Video

- Chip Integrated
 - Integrated 2D/3D graphics with 3Dsetup engine
 - Integrated 230Mhz 32-bit RAMDAC
 - Complete TV-Out solution

Network

- Realtek 8139B 10/100M Ethernet
 - FFW baseline & NET PC specs compliant
 - ACPI
 - Magic packet filtering to wake-up on LAN
 - ARP & Flexible frame filtering
 - Software drivers are backwards compatible

InfraRed

- Wireless Keyboard (CIR) for Black chassis (Panel A)
- SIR for White chassis (Panel B)

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.
- ACPI(Advanced Configuration and Power Interface) feature.

Dimension

- LPX Form Factor : 25cm(L) x 22.3cm(W) x 4 layers PCB

Mounting

- 6 mounting holes.

System Hardware Monitor

- 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

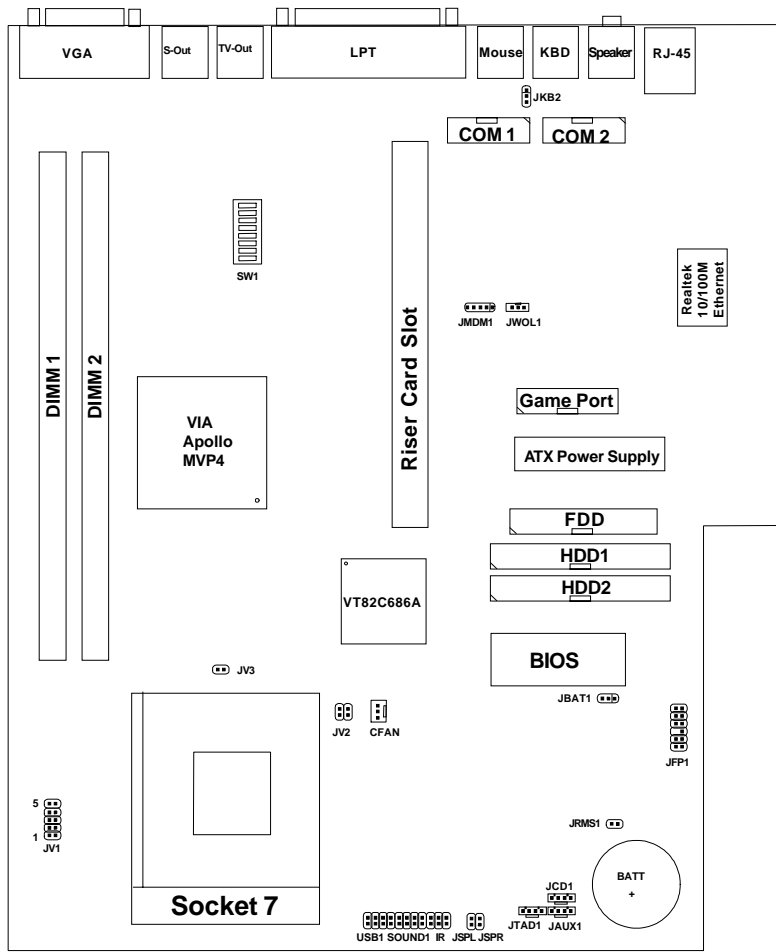
Riser Card

- Two PCI slots

Other Features

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

2.2 Layout



MS-5186 LPX VI15 Mainboard