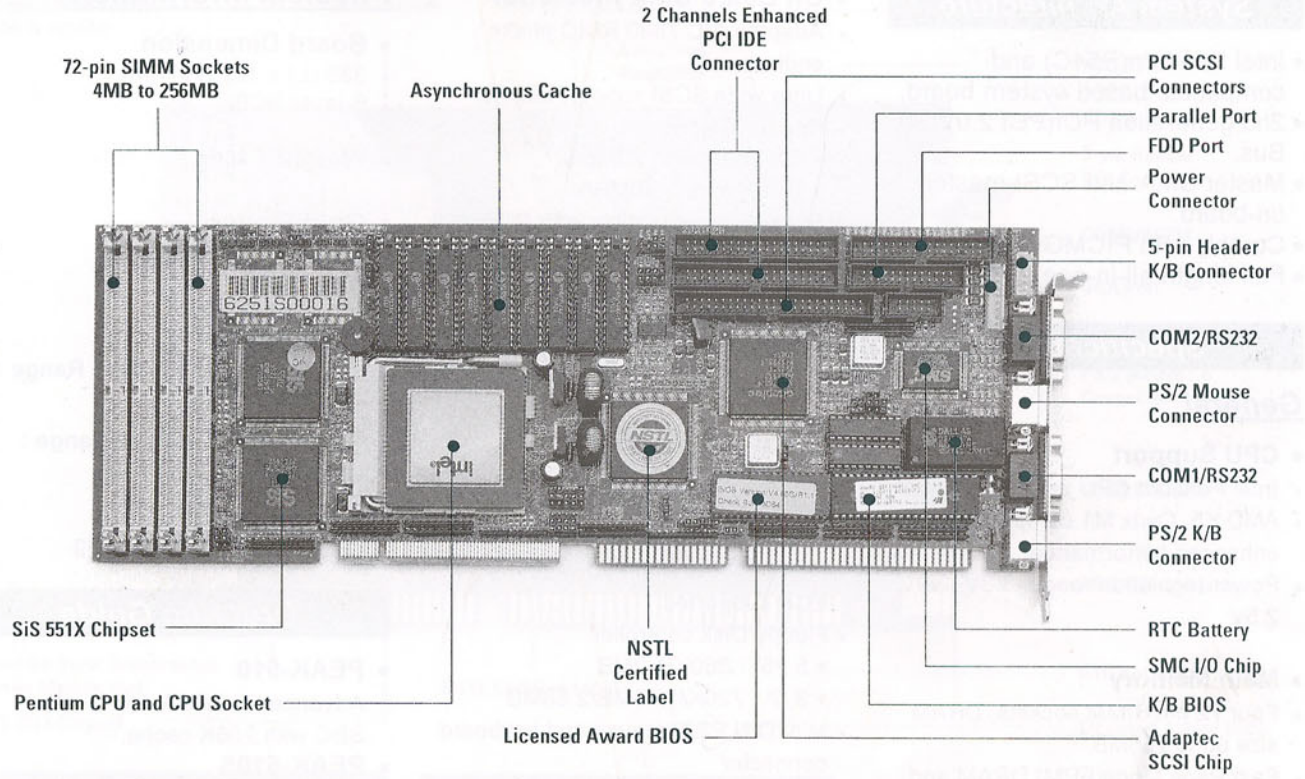
P-510/510S

Advanced PCI/ISA AIO Pentium SBC with Ultra-Wide SCSI



- Entry-level Pentium SBC with All-In-one functionality.
- 6 PCI devices connectivity(2 on board, 4 master slots on back-plane).
- Highest disk I/O on-board for 40MB/s(Ultra-Wide SCSI).
- Comply with PICMG PCI/ISA bus
- Instant Power ON/OFF.
- NSTL Approved for most popular O/S compatibility.

General Description

The P-510 series SBC is an advanced Pentium based SBC that supports various kinds of the Pentium CPU in 90/100/120/133Mhz speeds. Its "State of the Art" SBC design shows our outstanding technology to emerge all the leading features with ultra-wide SCSI, PCI IDE capability and Pentium computing power together for the high-end applications.

On-board Adaptec SCSI

Adaptec's AIC-7880 is a fully integrated SCSI host adapter for PCI applications. All SCSI sequences are managed by the Phase Engine, a high performance on-chip 10 MIPS RISC processor. The Ultra Wide SCSI can have transfer-speed up to 40MB/sec and maximize I/O through-put in high performance PCs for optimization of the 132MB/sec in PCI local bus. The AIC-7880 is tested extensively over a large matrix of O/S, peripherals and systems to ensure a high degree of compatibility and reliability.

Industrial Standard - PICMG

As all industrial users know, to follow the industrial PCI/ISA bus standard, PICMG, is the best way to optimize the application resources. Complying with this standard, P-610 series SBC can be used with various backplanes come from different companies. It can save your cost, fully utilize your investment and also enjoy the same performance.

NSTL Test Approved

P-510/510S is approved by the most authoritative laboratory, NSTL(National Software Testing Laboratory), to ensure the rigid level of compatibility and reliability with most popular Operation Systems. (SCO Unix, Windows NT, OS/2 Warp LAN Server, Win-95, Novell Netware.)

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System Architecture

- Intel Pentium(P54C) and compatible based system board.
- 2nd generation PCI(PCI 2.0)/ISA Bus.
- Master DMA and SCSI master on-board.
- Comply with PICMG standard.
- Full length all-in-one CPU board.

Specifications

General

- **CPU Support**
  - Intel Pentium CPU up to 133 MHz.
  - AMD K5, Cyrix M1 compatible and enhanced performance.
  - Power regulation range: 3.3V, 2.9V, 2.5V.
- **Main Memory**
  - Four 72 pin SIMM sockets, DRAM size up to 256MB.
  - Fast Page Mode(FPM) DRAM and Extended-Data-Output(EDO) DRAM supported.
- **Cache Memory**
  - Standard 256KB external cache(up to 1MB).
- **BIOS**
  - Award System BIOS with PCI, Green, P-n-P supported.
  - Adaptec AIC 7880 BIOS.
- **Chipset**
  - SiS 5501/5502/5503 PCI Chipset.
- **Bus Interface**
  - PCI (32 bit) and ISA (16 bit).
- **Watchdog Timer**
  - 1,2,4,8,16,32,64 seconds time-out interval.
  - BIOS support timer select.
- **Clock / Calendar**
  - Real time clock/calendar with battery backup.
- **On Board Ultra wide SCSI**
  - Adaptec AIC 7880 RISC phase engine.
  - Ultra wide SCSI support transfer rate as foolows.
    * 8 bit(narrow) : 20MB/s.
    * 16 bit(wide) : 40MB/s.
  - Backward compatible with SCSI I, SCSI II and also Wide SCSI.
  - 15 devices connectivity.
  - Drivers supported : DOS, Windows 95, Windows NT, Novell Netware, SCO Unix, OS/2 Warp 3.0, ... etc.
- **On-Board I/O**
  - SMC 37C665 super I/O on board.
  - support Two SIO(16550 fast UARTs compatible).
  - One bi-directional PIO with EPP/ ECP supported.
  - Floppy Disk controller :
    * 5.25" : 360K/1.2MB
    * 3.5" : 720K/1.44MB/2.88MB
  - Mini DIN PS/2 mouse and keyboard connector.
  - 5 pin header for KBD connector on backplane.
- **Power Good**
  - Power good generation with reset time, 300~500ms.
- **Power Requirement**
  - +5V @ 6.0A, -12V @ 20mA. +12V @ 1.2A

Physical Information

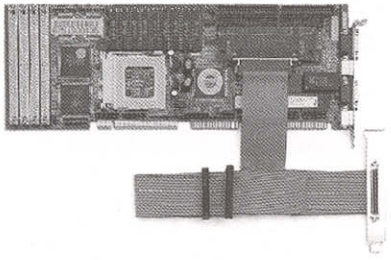
- **Board Dimension**
  - 338 (L) x 122 (W) mm.
  - 6-layer PCB.
- **Weight :** 450g.
- **Gold Fingers**
  - 30 Mil gold plating.

Environment

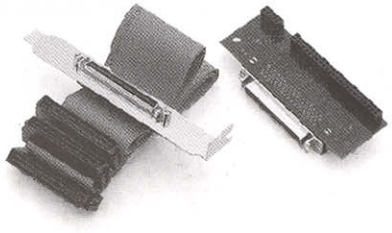
- **Operating Temperature Range :** 0 to 55 °C
- **Storage Temperature Range :** -40 to +75 °C
- **Relative Humidity :** 10 to 95% non-condensing.

Ordering Guide

- **P -510**
  Advanced PCI/ISA AIO Pentium SBC with 256K cache.
- **P -510S**
  Advanced PCI/ISA AIO Pentium SBC with PCI W-SCSI and 256k cache.
- **Option :**
  - 68 pin wide SCSI adapter with cable for P -510S to connect the wide SCSI drives.



The way to connect 68-pin SCSI cable



The 68-pin Wide SCSI cable