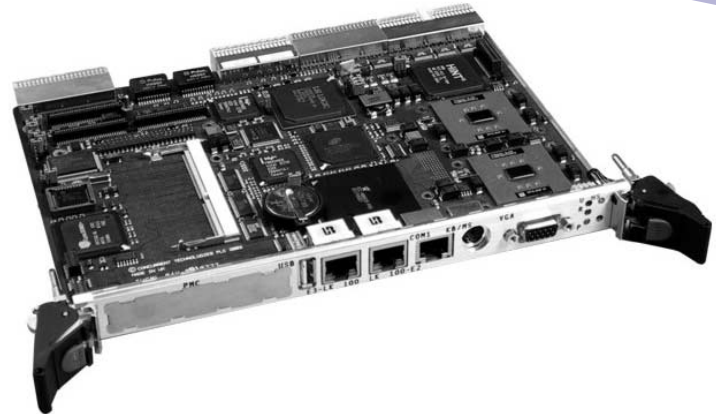


Dual Intel® Pentium® III Processor Single Board Computer



APPLICATIONS

The PP 121/01x is a PC-compatible high performance dual processor CompactPCI® single board computer, where each processor is a 933 MHz Intel® Pentium® III processor - Low Power. Featuring an optional on-board hard disk drive or CompactFlash™ drive and a variety of interfaces, the board is suitable for a range of high-performance applications within the industrial control, telecomms, telemetry, scientific and aerospace markets.

Additionally, very high-performance networking is provided by four Gigabit Ethernet links and the board is compliant to the PICMG® 2.16 specification. Full system monitoring is provided by the PICMG 2.9 compliant IPMI interface. To simplify the board's integration many popular industry standard operating systems are supported. The board is plug compatible with the PP 120/01x family.

HIGHLIGHTS

- Dual 933 MHz Intel Pentium III processors - Low Power:
 - 32 Kbytes on-die L1 cache
 - 512 Kbytes on-die L2 cache
 - no CPU fan needed
- Single slot
- Up to 1 Gbyte 133 MHz ECC SDRAM
- High performance Ultra-160 SCSI interface
- High performance EIDE interfaces with optional on-board disk drive or optional CompactFlash or IBM® /Hitachi Microdrive™
- 4 x 10/100/1000Mbps Ethernet interfaces
- Dual Gigabit Packet Switching Backplane (PICMG 2.16)
- 1 x PMC module interface (32/64-bit at 33/66 MHz)
- High resolution graphics interface
- 16 Mbytes Application Flash EPROM
- 512 Kbytes of BIOS Flash EPROM
- CompactPCI controller:
 - operates in system slot or peripheral slot
 - 32/64-bit at 33/66 MHz CompactPCI interface
- Option to bypass CompactPCI bus (Satellite Mode)
- IPMI (Intelligent Platform Management Interface):
 - PICMG 2.9 (System Management Specification)
- Keyboard and mouse interfaces
- 2 x USB ports
- 2 x asynchronous RS232 serial channels
- Watchdog timer, long duration timer
- Extended temperature version available:
 - -25°C to +70°C (E-Series)
- Support for Windows NT®, Windows® 2000, Windows® XP, Linux®, QNX® and VxWorks®
- Optional Transition Module for rear panel I/O
- Optional blank front panel (see PP 121/11x)

Central Processors

- dual 933 MHz Intel® Pentium® III processor - Low Power
- each processor:-
 - 32 Kbytes of primary (L1) on-die cache
 - 512 Kbytes of secondary (L2) on-die cache
 - no CPU fan
- utilizes 64-bit ServerWorks™ ServerSet™ III LE chipset:-
 - supports 133 MHz processor bus frequency

DRAM

- supporting up to 1 Gbyte of 133 MHz ECC SDRAM:-
 - 512 Mbytes soldered on the board
 - 512 Mbytes provided via a 144-pin SODIMM socket
 - single-bit error correction; double-bit error detection
- accessible from Intel Pentium III processor and CompactPCI bus

Hard Disk Interfaces

- EIDE interface:-
 - supports up to Ultra-DMA 100 for high performance drives
 - two channels (primary and secondary)
 - secondary channel can be used for on-board 2.5 inch disk drive, or support for 1 or 2 CompactFlash or MicroDrive™ Type II drives
 - primary channel is accessible via J5 to the Transition Module
- Ultra 160 SCSI:-
 - implemented by a LSI53C1000R controller via 64-bit 33/66 MHz PCI bus
 - accessible via J3 to the Transition Module

Ethernet Interfaces

- 4 x channels supporting 10 Base-T, 100 Base-TX, 1000 Base-T
- implemented by 2 x 82546EB LAN Controllers via 64-bit 33/66 MHz PCI bus
- support for PICMG 2.16 R1.0 - Packet Switching Backplane (PSB)
- 2 x channels accessed via J3 and 2 x channels via front panel RJ45:-
 - support for rear panel RJ45 connectors via Transition Module

Graphics Interface

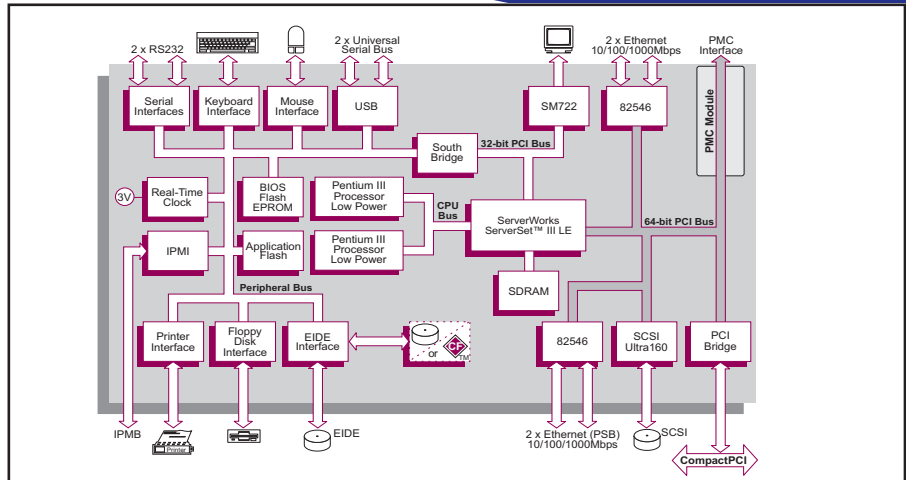
- implemented by a Silicon Motion® SM722 providing:-
 - 8 Mbytes video memory
 - resolutions up to 1280 x 1024
 - supporting up to 16M colors
- accessed by front panel VGA connector

PMC Interface

- 1 x PMC site:-
 - I/O via front panel
 - 32/64-bits, 33/66 MHz PCI operation
 - 3.3V or 5V signaling levels

Serial Interface

- 2 x RS232 interfaces, one via a front panel RJ45, and both via J5 to the Transition Module
- 16550 compatible UARTs
- each channel supports RXD, TXD, CTS, RTS, DSR, DTR and DCD:-
 - RI support via J5



Other Peripheral Interfaces

- keyboard and mouse interfaces, sharing a single PS/2™ type connector on front panel or via J5 to the Transition Module
- PC-compatible Real Time Clock (Year-2000 compliant)
- floppy disk interface via J5 to the Transition Module
- 2 x USB (Universal Serial Bus) 1.0 interfaces one via front panel, both via J5 to the Transition Module
- parallel printer port interface (ECP, EPP and IEEE1284) via J5 to the Transition Module
- watchdog timer, 32-bit long duration timer
- system fan monitor; two CPU temperature monitors; board temperature monitor; voltages monitor:-
 - all accessible via IPMI
- speaker interface

Firmware Support

- Phoenix® ServerBIOS™
- comprehensive Power-On Self-Test (POST)
- LAN boot firmware included

Flash EPROM

- 16 Mbyte Application Flash EPROM - 8-bits wide
- 512 Kbytes of BIOS Flash EPROM - 8-bits wide

CompactPCI Interface

- compliant with PICMG 2.0 R3.0; 3.3V and 5V signaling levels:-
 - universal signaling supported
- 33/66 MHz; 32/64-bit interface accessed via J1/J2 connectors
- utilizing a PCI-PCI bridge for off-board accesses
- PICMG 2.1 R2.0 Hot Swap Specification Compatible as hot swap controller only
- J4 connector not fitted
- operates as a System Slot controller or in a peripheral slot
- option to disable CompactPCI interface (Satellite Mode):-
 - receives power from CompactPCI bus
 - board can be hot swapped in this mode

Software Support

- support for Windows NT, Windows 2000, Windows XP, Linux, QNX and VxWorks:-
 - VxWorks requires single CPU model

IPMI

- PICMG 2.9 R1.0 (System Management Specification)
- implements the IPMB0 interface
- on-board Baseboard Management Controller
- supports 8 Kbytes of non-volatile memory

Electrical Specification

- +5V@5A (1 Gbyte DRAM and dual 933 MHz processors); +5% / -3%
- +3.3V@3.5A; +5% / -3%
- +12V@0.0A; -12V@0.0A
- plug compatible with the PP 120/01x

Safety

- PCB (PWB) manufactured with flammability rating of 94V-0

Environmental Specification

- operating temperatures:-
 - 0°C to +55°C (N-Series)
 - -25°C to +70°C (E-Series)
- 10% to 90% Relative Humidity non-condensing (operating)
- -40°C to +70°C (storage)
- 10% to 90% Relative Humidity non-condensing (storage)

Mechanical Specification

- 6U form-factor: 9.2 inches x 6.3 inches (233mm x 160mm)
- single slot: 0.8 inches (20.3mm); for blank front panel see PP 121/11x
- plug compatible with the PP 120/01x
- connectors: IEC-1076-4-101 for J1-J5
- shock:
 - 20g, 11ms, ½ sine (operating);
 - 30g, 11ms, ½ sine (non-operating)
- vibration:
 - 5Hz-2000Hz at 2g, 0.38mm peak displacement (operating)
 - 5Hz-2000Hz at 5g, 0.76mm peak displacement (non-operating)

ORDERING INFORMATION

Order Number	Product Description (Hardware)
PP 121/011-xy	Dual 933 MHz Pentium III Processors - Low Power
AD PP4/001-10	Transition Module plus CompactFlash carrier
AD PP4/001-11	Transition Module plus 1.8inch Hard Disk Drive
AD 200/001-00	CompactFlash/Microdrive carrier assembly
AD CP1/DR1-z0	2.5 inch Hard Disk Drive assembly

For z options please contact your local sales office

Replace the order number suffix (xy) with selections from the following:

where x =	where y =
1 - Ethernet via rear panel	0 - reserved
2 - Ethernet via PICMG 2.16	1 - 512 Mbytes
	2 - reserved
	3 - 1 Gbyte

For blank front panel version, see separate PP 121/11x datasheet
For extended temperature, E-Series, please contact your local sales office