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AlphaPC 164 Motherboard
Digital UNIX

Digital Semiconductor AlphaPC 164 Motherboard Digital UNIX Product Brief

The Digital Semiconductor AlphaPC 164 Motherboard is the highest performing motherboard available in the UNIX PC market today. The AlphaPC 164 Motherboard provides an easy, cost-effective solution for companies entering the high-performance PC market. Additionally, the AlphaPC 164 Motherboard offers companies high-performance alternatives to their current x86 or RISC platforms.

Applications

- CAD/CAM
- Software development/CASE
- Engineering
- Accounting/Financial services
- Graphics/Imaging
- Transaction processing
- Data warehousing
- Office automation
- Internet commerce
- Process control/Simulation

Benefits

AlphaPC 164 Motherboard

- Yields highest performance in the UNIX PC market
- Uses standard PC components, which leverage low-cost systems
- Offers delivery of a high-performance system having:
  - Microprocessor speed up to 500 MHz
  - Superscalar 4-way instruction issue
  - High-bandwidth interface
  - 0.35-µm CMOS technology
  - 1MB, board-level, L3 cache
- Is the perfect platform for performance-focused applications

Digital UNIX

- Complies with numerous standards and industry specifications, including:
  - LP64, the industry's new 64-bit UNIX standard and programming interface
  - Common Desktop Environment (CDE)
  - X/Open branding for UNIX 95
  - POSIX
  - X/Open XPG4 and XTI
- Runs FreePort Express, the free software binary translator that converts user executables and shared libraries from SunOS Version 4.1.*n* SPARC into functionally-equivalent user executables and shared libraries for Alpha systems running Digital UNIX

Description

Digital's Alpha architecture is an advanced 64-bit RISC architecture designed with particular emphasis on speed, multiple instruction issue, multiple processors, and software migration from many operating systems.

The AlphaPC 164 Motherboard microprocessor is a superscalar, fully-pipelined, high-performance implementation of the Alpha architecture that supports multiple operating systems, including Digital UNIX.

ALPHA GENERATION™

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Hardware Features

- AlphaPC 164 Motherboard supports the Digital Semiconductor 21164 Alpha microprocessor running at speeds up to 500 MHz
- Digital Semiconductor 21172 core logic chipset interfaces to the CPU, system memory, L3 cache, and PCI bus
- DRAM memory subsystem includes:
  - 128-bit or 256-bit data bus
  - 16MB-to-512MB memory array
  - One bank of either 4- or 8-commodity, 36-bit, 70-ns SIMMs
- L3 cache subsystem supports:
  - 128-bit data path
  - Synchronous SRAMs
  - 1MB (32K × 36) cache size
- PCI bus support:
  - 32-bit and 64-bit, 33-MHz PCI
  - PCI-to-ISA bridge through an Intel 82378ZB Saturn I/O chip
  - Four dedicated PCI slots (two 64-bit)
  - Two dedicated ISA expansion slots
- ISA provides an expansion bus and the following system support functions:
  - SMC FDC37C935 combination controller chip provides diskette control, two UARTs with modem control, parallel port, mouse control, keyboard control, and time-of-year (TOY) clock
  - 1MB of flash ROM

Software Features

- Alpha SRM Console Firmware, which supports the installation of Digital UNIX Version 4.0 or higher
- Digital UNIX 2-User Base License (Digital UNIX media kit purchased separately)

Documentation

- *AlphaPC 164 Motherboard Digital UNIX User's Manual*
- 1-year warranty card

For More Information

To learn more about the availability of the AlphaPC 164 Motherboard, contact your local semiconductor distributor. To learn more about Digital Semiconductor's product portfolio, contact the Digital Semiconductor Information Line:

United States and Canada
1–800–332–2717
Outside North America
+1–508–628–4760

or visit the following World-Wide Web Internet sites:

- http://www.digital.com/info/semiconductor
- http://www.unix.digital.com

AlphaPC 164 Motherboard Characteristics

Characteristic	Specification
Power supply	Standard ATX 3.3-V PC power supply
Operating temperature range	10°C to 40°C (50°F to 104°F)
Storage temperature range	–55°C to 125°C (–67°F to 257°F)
Size	30.48 cm × 24.38 cm (12.0 in × 9.6 in)

Ordering Digital Semiconductor Products

Product	Order Number
AlphaPC 164 Motherboard with 1MB L3 cache	21A04–B2
Digital UNIX Concurrent User License	QL–MT7AM–3*
Digital UNIX Alpha V4 Media Kit	QA–MT4AP–H8
Digital UNIX Full Documentation Kit (excluding Reference Pages)	QA–MT4AP–GZ
Digital UNIX Reference Pages Documentation Kit	QA–MT4AG-GZ

* Denotes variant fields. For information on available licenses, please refer to the appropriate price book.