digital

Digital Semiconductor AlphaPC164 Motherboard

Product Brief

February 1996

ALPHA™ GENERATION

Description

Digital Semiconductor's AlphaPC164 Microprocessor Motherboard is the highest performance motherboard available in the market today. The AlphaPC164 provides an easy, cost-effective solution for companies entering the high-performance PC market. In addition, the AlphaPC164 offers companies high-performance alternatives to their current x86 or RISC platforms.

Alpha systems are created using standard PC components, such as DRAM SIMMs, PCI option cards, power supplies, enclosures, and the Windows NT operating system. Using standard PC components allows Alpha PCs to be produced at the same system cost as other PCs, but at a much higher performance.

These Alpha PCs are perfect for performance-focused applications, such as mechanical CAD, graphics and animation, and desktop publishing. Alpha provides the best solution with over 2500 committed Windows NT applications.

The AlphaPC164 motherboard integrates Digital's engineering excellence and quality and commitment to performance into each Alpha system—which keeps Alpha systems ahead of the competition.

Hardware Features

- AlphaPC164 supports the Digital Semiconductor 21164 Alpha Microprocessor running at speeds of 366, 400, or 433 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 x 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
  - PCI IDE using CMD PCI0646
  - PCI USB using CMD USB0670
- 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, time-of-year (TOY) clock
  - 1MB of flash ROM

Software Features

- Windows NT ARC Firmware, which supports installation of Windows NT 3.51. (Windows NT operating system purchased separately.)

Documentation

- *AlphaPC164 Motherboard User's Manual*
- 1-year warranty

digital

Applications

The AlphaPC164 allows PC companies immediate opportunities to deliver high-performance systems in the marketplace. Opportunities exist today in CAD, financial analysis, database manipulation, virtual reality, special effects, and so on—anyplace where the user waits for a response from their system.

For More Information

To learn more about the availability of the AlphaPC164 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

AlphaPC164 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 x 24.38 cm (12.0 in x 9.6 in)

Ordering Digital Semiconductor Products

Product	Order Number
AlphaPC164 Motherboard with 1MB L3 cache	21A04–B0

While Digital believes the information in this publication is correct as of the date of publication, it is subject to change without notice.

© Digital Equipment Corporation 1996.

All rights reserved.
Printed in U.S.A.

EC-QUQKA-TE

AlphaGeneration, Digital, Digital Semiconductor, the AlphaGeneration design mark, and the DIGITAL logo are trademarks of Digital Equipment Corporation.

Digital Semiconductor is a Digital Equipment Corporation business.

Intel is a trademark of Intel Corporation. Windows NT is a trademark of Microsoft Corporation.

All other trademarks and registered trademarks are the property of their respective owners.