



AlphaPC 164RX Motherboard

Alpha performance in a competitive PC form factor

By offering a pace-setting performance alternative to x86 and RISC platforms, Compaq Computer Corporation's AlphaPC™ 164RX motherboard provides an easy, cost-effective solution for companies entering high-performance embedded markets.



Alpha motherboards are designed to use standard PC components such as synchronous DRAM (SDRAM) DIMMs, PCI option cards, power supplies, and enclosures. The AlphaPC 164RX offers PCI and ISA slots, onboard PCI IDE, onboard Ethernet, and memory support for up to 512 MB of SDRAM in an ATX form factor.

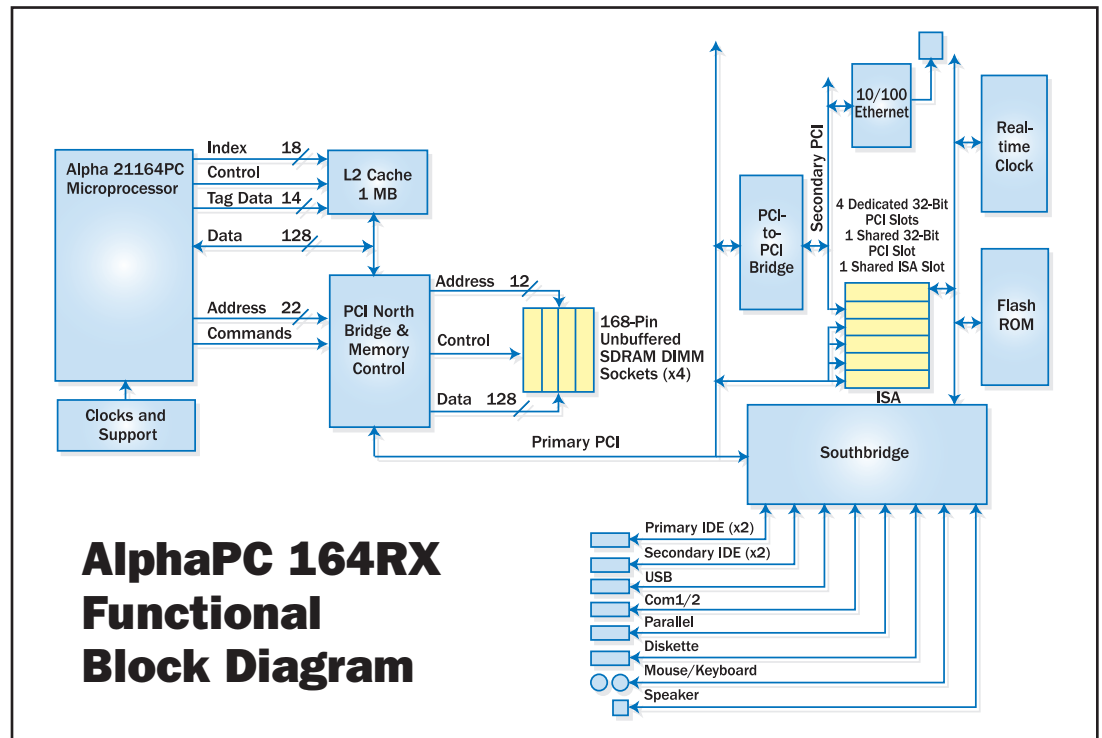
The AlphaPC 164RX is ideal for performance-focused embedded applications such as medical imaging, data and voice communications, network and Internet servers, RIP engines – any application where performance is critical.

The AlphaPC 164RX motherboard integrates Compaq Computer Corporation's engineering excellence, quality, and performance, creating an optimal solution for today's OEMs.

Hardware features

- AlphaPC 164RX supports the Alpha 21164PC (0.28 μm) micro-processor operating at speeds of 525 or 600 MHz.
- VLSI Technology's Polaris system controller chip interfaces between the CPU, L2 cache, system memory, and PCI-based subsystems. Polaris drives the system memory bus at a speed of 75 MHz.
- SDRAM memory subsystem includes:
 - 64 MB to 512 MB memory
 - Two 128-bit banks of memory
 - Two or four PC100-compliant 168-pin, unbuffered SDRAM DIMMs
- L2 cache subsystem supports:
 - 128-bit data path
 - 1 MB cache size, using pipelined burst synchronous static RAMs (PBSRAMs)

- PCI bus support (33 MHz):
 - Five 5-V, 32-bit, PCI slots.
 - One slot is bridged through a PCI-to-PCI bridge chip and is shared with the ISA slot.
- Integrated PCI peripheral support:
 - 10/100-Mb/s Ethernet onboard with TPE/RJ45 connector
 - PCI IDE control (PIO mode 4) with UltraDMA support
- ISA bus support:
 - One ISA expansion slot (shared with the bridged PCI slot)
- Integrated ISA peripheral support:
 - 1 MB of flash ROM for AlphaBIOS
 - Real-time clock
 - Keyboard and mouse control
 - Diskette control
 - Two UARTs with modem control
 - Parallel port
 - 2 USB ports
- Standard ATX form factor and power supply requirements.



AlphaPC 164RX Functional Block Diagram

AlphaPC 164RX includes one of the following boards. Documentation and firmware are available separately.

Ordering information	
Product	Order number
AlphaPC 164RX Motherboard, 525-MHz CPU, 1 MB L2 cache for Windows NT	21A05-B0
AlphaPC 164RX Motherboard, 600-MHz CPU, 1 MB L2 cache for Windows NT	21A05-B1

AlphaPC 164RX characteristics	
Characteristic	Specification
Power supply	Standard ATX 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)

Related products and documentation	
Product	Order number
Motherboard Software Developer's Kit (SDK) and Firmware Update	QR-21B02-04
AlphaPC 164RX Motherboard Reference Manual	EC-RE0NA-TE
Alpha 21164PC (0.28 μm) Microprocessor Hardware Reference Manual	EC-RADPA-TE

Software features

• Windows NT™ AlphaBIOS firmware, which supports installation of Windows NT 4.0. (Windows NT operating system purchased separately.)

Documentation

• AlphaPC 164RX Motherboard Reference Manual (available on the World Wide Web.)

Warranty

One year.

For more information

To learn more about the availability of the AlphaPC 164RX, contact your local sales office. To learn more about Compaq Computer Corporation's portfolio of Alpha board products, visit the Alpha OEM World Wide Web Internet site: www.digital.com/alphaoem

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cost-effective