

At A Glance

MICROPROCESSOR REPORT

THE INSIDERS' GUIDE TO MICROPROCESSOR HARDWARE

Pentium Approaches RISC Performance.....1

Intel's forthcoming 66-MHz Pentium chip doubles the performance of the 66-MHz 486DX2 on integer benchmarks and provides an even greater improvement for floating point. While this performance surpasses the weaker RISC chips, others hold a strong lead.

Editorial: Pentium vs. the RISCs3

If software developers support their applications on RISC platforms running Windows NT, these systems could capture part of the high end of the PC market.

Most Significant Bits4

Mitsubishi to manufacture, sell Alpha chips; DEC announces 200-MHz chip availability; Sharp to sell ARM processors; TI announces 3.3V, 33-MHz 486DLC; MicroUnity building high-speed fab; MIPS pumps up R4400 performance numbers; Bob Miller heading new workstation venture; OPTi introduces chip set for 486 S-Series; Microsoft launches Plug and Play initiative; Intel releases PCI license, but is it enough?; Dell using patent to slow VL-Bus; PowerOpen formally announced.

Intel Reveals Pentium Implementation Details9

Pentium includes many improvements over the 486 design, including separate instruction and data caches, dual integer pipelines, a branch target buffer, a pipelined floating-point unit, and a 64-bit external bus. Software-visible changes, including new instructions, were kept to a minimum.

Intel Provides PCI Chip Set for Pentium.....18

Intel's 82430 system-logic chip set connects a Pentium processor to a PCI bus and includes cache and memory control. Either EISA or ISA can be used for expansion.

Sun Details Extensive Plan for SPARC CPUs.....20

Sun claims to be developing nine new processors, including extensions to its microSPARC and SuperSPARC chips as well as a new CPU family, UltraSPARC, which will debut in 1995.

DRAMs for New Memory Systems (Part 3)22

Many of the new memory designs are likely to find roles in various market segments. The workstation market is likely to be the first target, and may adopt SDRAM or CDRAM. Rambus parts may displace VRAMs and eventually find a home in portable systems.

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John Wharton explains why the on-going delays in the Pentium program may be the best thing that could happen for Intel.

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