## AT A GLANCE


**SGS Puts 486 PC on a Chip** . . . . . 1

Increasing the power of a single-chip PC, SGS-Thomson has introduced a product based on a 66-MHz 486 core, and it plans to ship a 133-MHz version in 1H98. The chip provides a complete UMA-based PC with PCI and video logic; the motherboard needs only DRAM and a super I/O chip to be added. With the STPC chip, designers can quickly create an "embedded PC" for applications such as point-of-sale terminals. Future derivative chips may have different peripherals.

**Editorial: Intel's Two-Track Strategy Rerouted** . . . . . 3

Although the P6 came out in 1995, two years after the P5, it looks as if a true seventh-generation chip won't appear until 1999, when two contenders, Willamette and Merced, will begin shipments. In the meantime, the P6 will be extended to higher performance points.

**Most Significant Bits** . . . . . 4

SGI updates MIPS roadmap; Intel halves prices on most chips; Sony, Hyundai take up ARM licenses; Hitachi does SH7709, core-logic pair for CE; Siemens nabs Java for smart cards; Toshiba rolls out first MIPS-16 chip.

**PowerPC 750 Sets MacBench Records** . . . . . 8

IBM and Motorola introduced two new PowerPC chips. The 350-MHz 604e (Mach 5) offers better SPEC95 ratings, but the 266-MHz 750 (Arthur), with the added bandwidth of its backside bus, delivers better performance on Mac applications.

**V830 Gunning for Home Media Boxes** . . . . . 10

The V830 instruction set extends the basic V800 with a range of new instructions for multimedia and signal processing. These extensions position the chip well for emerging digital consumer devices.

**IC Makers Confront RC Limitations** . . . . . 14

Looking ahead to the 0.18-micron generation, microprocessor makers see interconnect delays becoming much more critical than transistor speed. Changing the shape of the metal traces provides some relief, but most chip makers, led by IBM and Texas Instruments, are looking to use alternative materials, such as copper metal traces and low-*k* dielectrics, to improve the RC product.

**Embedded DRAM Finds Growing Niche** . . . . . 19

Combining DRAM and logic on a single chip can reduce power consumption and footprint while providing much higher bandwidth than a discrete solution. The drastic differences between DRAM and logic processes, however, force such chips to trade off density and performance, and the combination inevitably adds cost. In the near future, this technology is best suited to portable niche devices.

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Microprocessor Report (ISSN 0899-9341) is published every three weeks, 17 issues per year. Rates are: N. America: $595 per year, $1,095 for two years. Europe: £450 per year, £795 for two years. Elsewhere: $695 per year, $1,295 for two years. Back issues are available.

**Published by**
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Computer Press Award, Best Newsletter, Winner, 1993, 1994; Runner-Up, 1996

Printed on recycled paper with soy ink.