AUDIO/VIDEO

Smart video ICs provide dazzling multimedia displays. An overview of 3D graphics accelerators. Bob Margolin, *Computer Design*, 3/97, p. 39, 3 pp.

Making audio DVD sing. As digital videodisk movie and PC players roll toward the market, audio designers are beginning to attend to a new DVD tune that sings of a class of digital audio products still to come. Ray Freeman, Optical Storage Technology Association; *OEM*, 3/97, p. 64, 8 pp.

BUSES

Embedded PCI meets 68K: some bridging issues. As PCI proliferates, embedded systems designers need a way to bridge from 68K-based CPUs to the PCI bus. Tom Wilson, Richard O'Connor, Tundra Semiconductor; *Electronic Design*, 3/3/97, p. 140, 3 pp.

DEVELOPMENT TOOLS

ICEs rise to challenge of new processors. Higher clock rates, on-chip caches, and proliferating processor architectures force in-circuit-emulator vendors to constantly refine their tools. John H. Mayer, *Computer Design*, 3/97, p. 113, 3 pp.

Static timing analysis of high-speed boards. The static timing analysis tool Motive, from Quad Design Technology, can identify potentially destructive timing problems of printed-circuit board and system designs. Luke L. Chang, Ascom Nexicon; *IEEE Spectrum*, 3/97, p. 67, 8 pp.

Automated virtual prototyping tool delivers optimized PCB placement. UniCAD's Multi-Disciplinary Optimizer (MDO) can trade off speed, heat, EMI, and other issues in a PCB design. Cheryl Ajluni, *Electronic Design*, 3/3/97, p. 55, 3 pp.

Design automation for mixed hardware-software systems. Benefits come from integrating hardware and software design into a single methodology. Jay K. Adams, Synopsys, and Donald E. Thomas, Carnegie-Mellon; *Electronic Design*, 3/3/97, p. 64, 5 pp.

DSPS

Distributed memory architecture for massively parallel SHARC systems. SHARC's ability to simultaneously sustain high-performance core processing and high-speed, DMA-driven link-port communications puts it ahead in the DSP race. Mario Palumbo, Alex Computer Systems; *RTC*, 3/97, p. 27, 3 pp.

DSP technology hits crossroads. The good news is that DSPs are on a roll. The bad news is that RISCs are out to take away the high-end signal-processing niche that DSPs have exploited so effectively. Ray Weiss, *RTC*, 3/97, p. 61, 3 pp.

Decoupling opens bottlenecks in VME64-based DSP systems. Host and secondary buses that operate independently clear roadblocks to maximum throughput. Grant Brydon, Spectrum Signal Processing; *Electronic Design*, 3/3/97, p. 147, 3 pp.

DSP can be a "RISCy" business. The current king of floating-point DSP is not a DSP chip but a RISC chip that was targeted for graphics engines, the Intel i860. Richard Jaenicke, Sky Computers; *RTC*, 3/97, p. 23, 2 pp.

When striving for faster DSP, PCI is valuable but no silver bullet. PCI promises to significantly change the way computers handle signal-processing data. Michael L. Porter, *Personal Engineering*, 3/97, p. 35, 6 pp.

IC DESIGN

Core-based methodology maturing in time for mainstream? By 2000, half of all ASIC designs may contain cores. There has been progress in building a core-based ASIC design methodology, but pitfalls still await. Barbara Tuck, *Computer Design*, 3/97, p. 47, 5 pp.

The one-chip riddle. The concept of systems-on-silicon is compelling, but when you try to pin down the term or implement the idea, reality rears its ugly head. Ron Wilson, EE Times; *OEM*, 3/97, p. 36, 8 pp.

The new line in IC design. Attention to interconnection effects, from the start to the end of the design process, holds the key to an IC with the best performance and highest yield. Tsu-Chang Lee, NeoParadigm Labs, and Jason Cong, UCLA; *IEEE Spectrum*, 3/97, p. 52, 7 pp.

MEMORY

Embedded systems to benefit from advances in DRAM technology. Most discussions about computer performance focus on the CPU's speed. But even the fastest CPU can't do anything without input data. Bob Margolin, *Computer Design*, 3/97, p. 76, 5 pp.

MISCELLANEOUS

Reflecting on the smart phone. The smart phone is a convergence concept that will have multiple incarnations in cellular phones, PDAs, notebooks, pagers, and systems still being conceived. Peter Clarke, EE Times, and John Boyd; *OEM*, 3/97, p. 54, 8 pp.

Intel defies predictions, sets earnings record. While most microprocessor manufacturers suffered in 1996, industry leader Intel surprised many experts by reporting record earnings. Robert J. Melford, *Computer*, 3/97, p. 12, 3 pp.

SYSTEM DESIGN

External power supplies. A roundup of recently introduced power supplies. *Electronic Products*, 3/97, p. 43, 7 pp.

Digital-system designers meet EMI challenges. Higher speeds mean more challenges for the digital-system designer because of greater sensitivity to electromagnetic interference. Sam Davis, *Computer Design*, 3/97, p. 53, 3 pp.

Java in embedded-systems design. Java's presence is being felt in embedded-systems design, especially for devices that communicate across a network or other channel. Peter Varhol, *Computer Design*, 3/97, p. 63, 10 pp.