LITERATURE WATCH

AUDIO/VIDEO

Stream conversion to support interactive video playout. Transforming the standard MPEG stream to a local form at the player device enables efficient interactive playout even when available buffer space is constrained. Ming-Syan Chen, Dilip D. Kandlur, *IEEE MultiMedia;* Summer/96, p. 51, 8 pp.

Multimedia is still a home game. Many vendors are developing multimedia silicon. Stephan Ohr, *Computer Design,* 5/96, p. 82, 5 pp.

BUSES

PCI becomes the de facto mezzanine standard. The PCI mezzanine card (PMC) is being used as the de facto standard mezzanine bus for many VME CPU boards. Dave Wilson, *Computer Design,* 5/96, p. 84, 3 pp.

PCI and VME dare to share. Similarities between CompactPCI and VME make it possible to share technologies. Jeff Child, *Computer Design,* 5/96, p. 38, 2 pp.

Packaging innovations fuel a range of technology advances. The lowly package threatens to hinder next-generation silicon performance unless designers make it an integral part of system development. Mike Donlin, *Computer Design,* 5/96, p. 55, 6 pp.

DEVELOPMENT TOOLS

Digital oscilloscopes: for best results, understand how they work. If you don't appreciate the complex operations that produce them, the displays can mislead you, resulting in costly errors in buying scopes. Dan Strassberg, *EDN,* 7/4/96, p. 43, 9 pp.

Digital logic simulation: event-driven, cycle-based, and home-brewed. Logic simulation is an interesting beast. Most engineers know what it does and what it's for, but few understand its subtle ramifications. Clive Maxfield, *EDN,* 7/4/96, p. 129, 5 pp.

MEMORY

Designing with flash memory: a tool exhibition. Flash memory has evolved from an EPROM replacement to an integral part of many systems. Markus Levy, *EDN,* 7/4/96, p. 81, 5 pp.

Memory modules get faster, wider, cheaper. A directory of DRAM and SRAM modules. Jeff Child, *Computer Design,* 5/96, p. 115, 7 pp.

Flash memories raise new design issues. Designers employing flash memories must take into account a number of file-storage considerations. Rob Frizzell, *Electronic Design,* 6/24/96, p. 93, 4 pp.

MISCELLANEOUS

Workstation wars get personal. According to IDC, RISC/Unix workstation sales increased only 4% last year while x86/NT workstation sales surged 50%. Richard Comerford, *IEEE Spectrum,* 6/96, p. 43, 5 pp.

PERIPHERALS

The EPAC evolves into a newer and versatile configuration. This analog data-acquisition IC might be classified as a digital assistant. Paul McGoldrick, *Electronic Design,* 6/24/96, p. 173, 2 pp.

PROCESSORS

Sixteen-bit microcontrollers take over from 8-bitters. Sixteen-bit microcontrollers fill the widening price/performance gap between 8- and 32-bit chips. Ray Weiss, *Computer Design,* 6/96, p. 44, 4 pp.

Eight-bit micros bulk up to meet tougher applications. Eight-bit microcontrollers (MCUs) aren't going away soon. The market keeps expanding as micros continue to place mechanical, electrical, and hydraulic systems under silicon-based control. Ray Weiss, *Computer Design,* 5/96, p. 65, 7 pp.

SYSTEM DESIGN

Paradigm convergence. Taking a page from software, hardware designers can use embedded objects to speed development time. John Dybowski, *Midnight Engineering,* 6–7/96, p. 33, 8 pp.

Hot docking: a new world of on-demand, powered-up desktop connections. To penetrate the desktop market, cooperative engineering will be needed from system-software, hardware, and operating-system providers. Robert F. Angelo, *Portable Design,* p. 25, 2 pp.

Reconfigurable logic: built-in adaptability. A design based on reconfigurable logic offers both hardware speed and software flexibility. Doug Conner, *EDN,* p. 43, 13 pp.

Using flash memory to diagnose system bugs. Logging error information to flash can aid the debug process without seriously affecting cost or design time. Bill Grundmann, *Embedded Systems Programming,* 7/96, p. 64, 7 pp.

Tools and teamwork are key to successful PCB design. Today's requirements bring a convergence of signal integrity, electromagnetic compliance, thermal control, and other disciplines to even simple PCB designs, Mike Donlin, *Computer Design,* 6/96, p. 57, 9 pp.

Missing the memory wall: the case for processor/memory integration. With 0.25-micron CMOS, processor memory integration can be used to build competitive, scalable, and cost-effective MP systems. Ashley Saulsbury, Swedish Institute of Computer Science; Fong Pong, et al, Sun; *Computer Architecture News,* 5/96, p. 90, 12 pp.