

LITERATURE WATCH

BUSES

CompactPCI gains momentum. PCI silicon in a Euro-card form factor satisfies many embedded applications. Joe Pavlat, Pro-Log; *RTC*, 4/96, p. 41, 2 pp.

PCI and VMEbus: who's the winner? Mercury's Raceway Interlink boosts VME bandwidth in systems with many devices. Gary Olin, Mercury Computer Systems; *RTC*, 4/96, p. 37, 2 pp.

The mighty morphin' PCI bus. In addition to dominating the desktop, the PCI bus has metamorphosed into at least a half-dozen variants for industrial, compact, and mobile applications. Richard A. Quinnell, *EDN*, 4/25/95, p. 59, 9 pp.

USB and IEEE 1394: pretenders, contenders, or locks for ubiquitous desktop deployment? Two interfaces are vying for high-volume usage on the desktop. Maury Wright, *EDN*, 4/25/95, p. 79, 8 pp.

Parallel fiber-optic SCI links. Fiber-optic links offer several advantages over copper-based links, including greater transmission distances, reduced cable and connector bulk, and improved electrical isolation. David R. Engebretsen, University of Minnesota, Daniel M. Kuchta, Richard C. Booth, et al, IBM; *IEEE Micro*, 2/96, p. 21, 7 pp.

The GigaRing channel. Cray's GigaRing channel provides flexible intersystem and system-to-peripheral communication for distributed super-computer environments, sustaining data payload bandwidths on the order of 1 Gbyte per second. Steve Scott, *IEEE Micro*, 2/96, p. 27, 8 pp.

DEVELOPMENT TOOLS

Simulating embedded systems. Although a simulator won't solve all your debugging problems, sometimes it's useful to have one around. Here's what simulation will and won't do for you. Kenneth F. Greenberg, *Embedded Systems Programming*, 3/96, p. 29, 7 pp.

DSPS

DSP ICs spread their wings. Most recent action is in 16-bit fixed-point processors, with task-switching and control features to take advantage of speed advances. Rodney Myrvaagnes, *Electronic Products*, 5/96, p. 27, 5 pp.

Digital signal processing—it's not just FFTs anymore. As digital signal processing is applied to an expanding range of problems, new algorithms are supplanting the traditional FFT. Michael L. Porter, *Personal Engineering*, 3/96, p. 38, 9 pp.

MISCELLANEOUS

Winning the micro game. Secrets to using and profiting from microcontrollers from an experienced guru. Don Lancaster, Synergetics; *Midnight Engineering*, 4–5/96, p. 59, 6 pp.

The trials and travails of interactive TV. Market tests of wired interactive TV continue, but two seductive new technologies—wireless cable and cable modems—are beckoning. Tekla S. Perry, *IEEE Spectrum*, 4/96, p. 22, 7 pp.

Semiconductor lithography for the next millennium. To fulfill prophecies of ICs stocked with billions of transistors having dimensions below 100 nanometers, tool-makers are hard at work revamping designs. Linda Geppert, *IEEE Spectrum*, 4/96, p. 33, 6 pp.

PROCESSORS

Processor selection using rate monotonic analysis. Here is a technique based on Rate Monotonic Analysis (RMA) to evaluate processors for use in embedded real-time systems. Douglas A. Thomae, Compuware; *Embedded Systems Programming*, 5/96, p. 34, 10 pp.

Debug support on the Cold-Fire architecture. Motorola's ColdFire includes both real-time and background debugging techniques, features that are becoming well-suited for embedded system development. William Hohl, Joe Circello, et al, Motorola; *Embedded Systems Programming*, 5/96, p. 52, 11 pp.

Integrated chip set cuts PDA, terminal complexity. Philips PR31100 and UCB1100 contain a MIPS CPU core plus the digital and analog interfaces needed for a typical PDA. Dave Bursky, *Electronic Design*, 5/1/96, p. 65, 5 pp.

SYSTEM DESIGN

Rites of ascension: PDAs come of age. Merging technology advances in communications and computer components are finally making PDAs useful and desirable. Clifford Meth, *Electronic Design*, 5/1/96, p. 50, 6 pp.

Bringing standards to embedded systems design. Software for embedded systems lags behind hardware standards, but two groups are setting out to change that. Sherrie Van Tyle, *Electronic Design*, 5/1/96, p. 37, 3 pp.

386EX design demands great attention to memory and interface circuits. An actual system design based on Intel's 386EX. Russ Lindgren, *Personal Engineering*, 3/96, p. 47, 8 pp.

Hardware vs software: how to make the design trade-off. Determining the best division between hardware and software is critical to your system's cost and time to market. Automotive examples provide some guidelines when you're designing complex systems. Mike Pauwels, Richard Soja, Motorola; *EDN*, 4/25/96, p. 155, 6 pp.

PCI bridge chip eases development of intelligent board family. PLX Technology's PCI9060 chip connects i960 processors to PCI. Michael Salameh, PLX Technology, Peter Sackin, Cyclone Microsystems; *RTC*, 4/96, p. 42, 4 pp.