Literature Watch

Buses

Implementing PCMCIA slots in x86 architecture systems. By following the QuickSwap hardware and software specifications, designers can implement PCMCIA that will "plug and play" in DOS/Windows x86 architecture. Stuart Levy, David Scheer, Intel; *IC Card*, 11-12/93, p. 16, 3 pp.

Plug (once) and play (many): IC card tokens and Windows software in the PCMCIA environment. Removable "hardware token" technology expands the flexibility of PCMCIA cards. Paul Kobus Jr., CDSM; *IC Card*, 11-12/93, p. 41, 3 pp.

I/O tasks find their way onto the PCI bus. As the line between traditional PCs and workstations blurs, the PCI bus takes over the role played by local buses and mezzanine buses. Richard Nass, *Electronic Design*, 10/14/93, p. 43, 4 pp.

Development Tools

Serial interfaces and µC code simulators offer alternate low-cost debugging tools. IC manufacturers and software developers cooperate to create cost-effective alternatives to expensive emulator/analysis systems. Russ Lindgren, *Personal Engineering & Instrumentation News*, 10/93, p. 35, 8 pp.

Vendor-independent design tools: finding the right approach to FPGA design. Selecting the right tools lets you create your designs independent from vendor's ever-changing device libraries. Doug Conner, *EDN*, 10/28/93, p. 57, 3 pp.

User-defined benchmarks help evaluate IC physical libraries. Managing the plethora of unique models and libraries for multiple CAE tools is becoming a major problem for designers. Harriet Harvey-Horn, et al, Compass Design Automation; *Electronic Design*, 10/14/93, p. 80, 9 pp.

Enhanced E²PLDs hit speed and density highs. Two complex PLD families let designers run systems at 135 MHz or trim chip count with 14-Kgate PLAs. Dave Bursky, *Electronic Design*, 10/14/93, p. 126, 4 pp.

DSPs

If limited computing bandwidth fetters application, multiprocessing DSPs can cut the bonds. A survey of currently available multi-DSP cards and systems. Michael L. Porter, *Personal Engineering & Instrumentation News*, 10/93, p. 43, 7 pp.

Graphics

Evaluating 3D on the high end. Develop a feel for the current wave of 3D graphics and animation packages for popular workstations. Tim Forcade, *Computer Graphics World*, 10/93, p. 44, 8 pp.

RAMDAC adds video to PC graphics subsystems. Px2085 is a highly-integrated graphics chip that offers a cost-effective way to add video to existing designs. Jeff Child, *Computer Design*, 10/93, p 114, 1 p.

Memory

Filing in a flash. Nonvolatile, rugged, and sequentially accessed, this particular flash memory is an attractive solid-state alternative to disk drives. James Eldridge, Toshiba America; *IEEE Spectrum*, 10/93, p. 53, 2 pp.

Miscellaneous

Iterative user-interface design. Multiple iterations of the design cycle can substantially improve a user interface. Jakob Nielsen, Bellcore; *Computer*, 11/93, p. 32, 10 pp.

SPARCserver 1000 aims to divide and conquer. Inexpensive and efficient hardware and software is the key to Sun's success in symmetric multiprocessing. Mark Cappel, et al, *SunWorld*, 11/93, p. 61, 7 pp.

CB-process enhancements yield high-speed array with 5.7-GHz PNP transistors. An economical analog process yields high-performance complementary bipolar transistors. Frank Goodenough, *Electronic Design*, 10/14/93, p. 33, 2 pp.

Programmable Logic

Designing with FPGAs. Field programmable gate arrays are the choice for prototyping designs with moderate to large amounts of logic. Del Hatch, Sandia National Laboratories; *The Computer Applications Journal*, 11/93, p. 26, 8 pp.

System Design

The CM-5 Connection Machine: a scalable supercomputer. This homogeneous multiprocessor exhibits scalability, has distributed memory that allows global addressing, and provides for global synchronization of distributed processes. W. Daniel Hillis, Lewis W. Tucker, Thinking Machines; *Communications of the ACM,* 11/93, p. 31, 10 pp.

Systems engineering of computer-based systems. The proliferation of complex, distributed processing and software points out the need for a discipline devoted to engineering large systems. Stephanie White, et al, *Computer*, 11/93, p. 54, 12 pp.

Speed up your M68040 with an interleaved bursting EPROM interface. Standard EPROMs and thoughtful design make for a low-cost memory system that supports 68040 burst mode. Ron Stence, Motorola; *The Computer Applications Journal*, 11/93, p. 14, 11 pp.

MCMs demand a DFT strategy. Multichip modules present a unique set of testing problems that can only be overcome by design. John Novellino, *Electronic Design*, 10/14/93, p. 50, 5 pp.

An application model points to the right controller. Modeling an embedded application helps designers choose a microcontroller based its features. Steven McIntyre, Intel; *Electronic Design*, 10/14/93, p. 114, 2 pp.

Optimizing Sparc interrupt response for embedded systems. Active reservation of Sparc register window allocation reduces latency and increases performance. Roland Chu, Fujitsu Microelectronica; *Electronic Design*, 10/1/93, p 76, 2 pp.