

Literature Watch

Buses

The impact of PCI on VME. PCI will not quickly displace VME from embedded systems. Kim Rubin, Green Spring Computers; *Computer Design*, 9/95, p. 128, 3 pp.

Development Tools

Fast HDL-based cycle simulators rescue submicron designers. An ASIC or IC is an appropriate fit for cycle-based simulation if it either is very large or requires a huge number of test vectors. Barbara Tuck, *Computer Design*, 9/95, p. 45, 3 pp.

JTAG emulator handles PowerPC 603/604. Corelis' PowerEM provides ICE-like debugging capability. Ray Molyneux, Computing Devices; John Uttermark, Master Design; *Electronic Design*, 8/21/95, p. 81, 9 pp.

Graphics/Video

Video and graphics integration goes mainstream on the desktop. Designers of video-enabled desktop and embedded systems must wade through myriad options to hit the price/performance target. Maury Wright, *EDN*, 9/1/95, p. 40, 12 pp.

Stand-alone RAMDACs evolve into multimedia devices as market shrinks. Discrete RAMDACs will be absorbed into GUI accelerators over the next few years. Jeff Child, *Computer Design*, 9/95, p. 122, 5 pp.

Highly integrated controller eases MPEG-1 adoption. Cirrus Logic's GD5520 MPEG-1 decoder lowers the cost of adding video and audio to PCs. Dave Bursky, *Electronic Design*, 8/21/95, p. 141, 2 pp.

Miscellaneous

Chip-scale packages bridge the gap between bare die and BGAs. Minimalist packaging could be the ticket to solving the known-good-die (KGD) dilemma. David Maliniak, *Electronic Design*, 8/21/95, p. 65, 5 pp.

Transmitting voice and data: all you need is one phone line. Voice-over-data technology lets you exchange data during a normal phone call on a POTS line. John Galant, *EDN*, 9/1/95, p. 61, 5 pp.

Revived Microchip goes after the MCU giants. Former General Instrument chip unit is making a strong comeback with one-time programmable microcontrollers and serial EEPROMs. Robert Ristelhueber, *Electronic Design*, 8/95, p. 63, 3 pp.

Floating-point emulation and representation. This tutorial is designed for developers who need to emulate floating-point operations or exchange data with another part of a heterogeneous system that has floating-point capabilities. Alan Booker, *Embedded Systems Programming*, 9/95, p. 111, 9 pp.

Processors

Designers bet on RISC for embedded systems. With its range of price/performance points, RISC is positioned for a major role in embedded-systems design. And RISC's clean, simple architectures keep down chip costs. Ray Weiss, *Computer Design*, 9/95, p. 69, 12 pp.

Processor implementations using queues. The evolution of instruction and branch target queues and their use in supporting variable-length instructions and reducing misalignment problems. Michael K. Milligan, Harvey G. Cragon, University of Texas; *IEEE Micro*, 8/95, p. 58, 8 pp.

Programmable Logic

Dense CPLDs offer FPGA alternative. AMD's Value Plus family achieves its high density by linking macrocell (MC) blocks across segment interconnect. Mike Donlin, *Computer Design*, 9/95, p. 40, 1 pp.

Managing power in high-speed PLDs. To address power concerns of high-speed PLDs, you need to accurately predict the power consumption of a design before you implement it on the board. Craig Lytle, Altera; *EDN*, 9/1/95, p. 135, 3 pp.

Improved array efficiency lets FPGAs challenge gate arrays. With an architecture that mimics sea-of-gates gate arrays, antifuse-based FPGAs deliver speed, low cost, and flexibility. Dave Bursky, *Electronic Design*, 9/5/95, p. 91, 4 pp.

Replace digital signal processors with HCPLDs. Could your DSP-based products enjoy performance gains while reducing cost? Leo Petropoulos, Altera; *Electronic Design*, 9/5/95, p. 99, 4 pp.

System Design

Dedicated digital fuzzy hardware. The simplicity and versatility of some successful fuzzy inference algorithms, the advent of high-density, user-programmable logic devices, and new powerful EDA tools together make dedicated digital hardware feasible for high-performance fuzzy systems. Donald L. Hung, Gannon University; *IEEE Micro*, 8/95, p. 31, 9 pp.

Lose the motherboard; gain flexibility. Passive-backplane PCs retain the ISA bus but not the motherboard. This seemingly minor change offers industrial users major advantages. Richard A. Quinnell, *EDN*, 9/1/95, p. 77, 6 pp.

Custom logic gives PCI peripheral cards interoperability. VLSI Technology's VCF94100 PCI interface is available as synthesizable VHDL code. Stephan Ohr, *Computer Design*, 9/95, p. 32, 3 pp.

Live insertion of digital circuits requires knowing your IC family. Although digital-IC vendors say their ICs support this operation, there's no complete or easy solution that eliminates potential damage. Jeffrey B. Davis, National Semiconductor; *EDN*, 8/17/95, p. 78, 5 pp.