Literature Watch

Development Tools

Combine software tools to devise your own FPGA-verification environment. Armed with working knowledge of a modeling language such as VHDL and a simulator, you can verify an FPGA's design and reduce prototype-debugging time. Leo Bredehoft, Netrix Telcom Systems; *EDN,* 11/10/94, p. 105, 8 pp.

Below the half-micron mark. Computer-aided design tools are catching up with shrinking transistor dimensions and channels, high device density, and low power requirements. Gyanendra Tiwary, Epic Design Technology; *IEEE Spectrum,* 11/94, p. 84, 4 pp.

Tools to speed FPGA development. Users of field-programmable gate arrays can now find easy-to-use development tools with powerful verification and optimization capabilities. Bradly K. Fawcett, Xilinx; *IEEE Spectrum,* 11/94, p. 88, 7 pp.

Memory

Flash blasts off in many different directions. A review of the flash memory market, suppliers, and products. Robert Ristelhueber, *Electronic Business Buyer,* 11/94, p. 83, 4 pp.

Flash-memory interfaces simplify systems. Replace code RAMs and nonvolatile code storage with flash memories that employ synchronous or DRAM-like host interfaces. Dave Bursky, *Electronic Design,* 11/7/94, p. 168, 4 pp.

Miscellaneous

Chip makers try to add quality while removing the package. Many semiconductor customers would use bare-die ICs but high cost and reliability problems exist. New test systems appear to assuage concerns. Robert Ristelhueber, *Electronic Business Buyer,* 11/94, p. 45, 3 pp.

Known-good die poised to take off. The key enabler for the multichip-module packaging revolution is leaving the labs and hitting the production lines. David Maliniak, *Electronic Design,* 11/21/94, p. 55, 10 pp.

Computer and phone: making a mixed marriage work. In one of the great turf battles of convergence, a handful of platforms are leading early technology adopters to the altar of computer-based telephony. Barry Phillips, *OEM Magazine,* 11/94, p. 72, 6 pp.

Peripherals

IC opens 500-channel frontier to cable systems. The Broadcom QAM-Link BCM3100 employs quadrature-amplitude modulation (QAM) to extract 40 Mbps from a cable TV channel. Lee Goldberg, *Electronic Design,* 11/7/94, p. 71, 6 pp.

Motherboard chip sets trim system costs. Highly integrated chip sets for PCs and workstations speed designs by providing many functions and options. Dave Bursky, *Electronic Design,* 11/21/94, p. 87, 10 pp.

Laser-printer controller eases memory demands. Destiny's D5001 compression engine provides resolutions up to 1200 dots per inch. Richard Nass, *Electronic Design,* 10/25/94, p. 139, 2 pp.

Suddenly, PC sound takes off. With standards set, chip makers gear up to lower the cost of PC audio. OEMs plan to put the feature in more systems, moving the function from add-in cards to the motherboard. Richard Quinnell, *Electronic Business Buyer,* 11/94, p. 89, 3 pp.

Processors

Match 32- and 64-bit CPUs to embedded applications. Designers must consider many factors when choosing RISC or CISC processors for critical real-time embedded systems. Dennis Terry, Heurikon; *Electronic Design,* 11/21/94, p. 105, 7 pp.

Powerful processors explode. Michael Slater surveys the coming crop of Pentium-class chips turning the CPU market into a multivendor free-for-all. Michael Slater, MicroDesign Resources; *OEM Magazine,* 11/94, p. 32, 6 pp.

Programmable Logic

It sometimes takes a microcontroller to boot up an FPGA. In theory, an FPGA can replace oodles of logic, but it may need some help in the real world. Scott B. Rosenthal, MicroSol; *Personal Engineering,* 11/27/94, p. 75, 3 pp.

Test standard speeds on-board programming. The JTAG boundary-scan test standard offers designers a better way to program complex logic devices. Kristen Ahrens, AMD; *Electronic Design,* 11/7/94, p. 107, 4 pp.

System Design

CPUs, chip sets, and BIOS join to green your PC. Core system components are important for managing and reducing power usage. Marcus Levy, *EDN,* 11/10/94, p. 44, 9 pp.

Green batteries: changing the rules for design. Environmental concerns change the design of batteries—and battery-powered devices. Dan Strassberg, *EDN,* 11/10/94, p. 59, 6 pp.

The IXM2 parallel associative processor for AI. SIMD processing with large associative memories can support robust performance in speech applications. The IXM2 with 73 Transputers has outclocked a Cray in some tasks. Tetsuya Higuchi, Kennichi Handa, et al, Electrotechnical Laboratory; *IEEE Computer,* 11/94, p. 53, 11 pp.

Parallel computing: glory and collapse. The market for massively parallel computers has collapsed, but researchers are still in love with parallel computing. Borko Furht, Florida Atlantic University; *IEEE Computer,* 11/94, p. 74, 2 pp.

