

## Literature Watch

## ASICs

**Source list: gate arrays.** Products from two dozen manufacturers are available for new designs. *Electronic Products*, 2/94, p. 36, 6 pp.

**Pick the right package for your next ASIC design.** Of the 15 package styles available, only one provides the best trade-off between cost and performance. David P. Pivin, Motorola; *EDN*, 2/3/94, p. 91, 7 pp.

## Buses

**PCI local bus gathers momentum.** Processor-independent and compatible with existing components, PCI picks up support from major systems makers. Gary Legg, *EDN*, 2/3/94, p. 25, 5 pp.

## Development Tools

**Debugging with host-based target simulation.** The expanding realm of embedded applications benefits from new software-construction and debugging models to produce correct code, on time. Nino Vidovic, Ready Systems; *Electronic Design*, 2/21/94, p. ES13, 5 pp.

**32-bit compilers add memory protection and portability for embedded systems.** Dropping prices and increasing performance make new processors more attractive for embedded systems; advanced tools can shorten development time. Russ Lindgren, *Personal Engineering*, 2/94, p. 31, 6 pp.

**Color displays make inroads into DSO world.** Digital oscilloscopes with new types of color displays compete with those employing traditional shadow-mask color displays. Warren Yates, *Electronic Products*, 2/94, p. 27, 5 pp.

## Memory

**Portable electronic storage systems.** Storage is the critical enabling technology for portable systems that require small size, light weight, and resilience in the face of physical shock. John F. Stockton, *IEEE Micro*, 2/94, p. 69, 8 pp.

## Miscellaneous

**Digital HDTV system links computers with telecommunications.** After seven years of proposals, committees, and tests, a U.S. standard for HDTV could be in place by year's end. Anne Watson Swager, *EDN* 2/3/94, p. 35, 3 pp.

**Step-up/step-down converters power small portable systems.** With the right circuit, four AA cells can drive a 1W system all day. Bruce D. Moore, *EDN*, 2/3/94, p. 79, 5 pp.

**The new software paradigm.** Assembling lines of code into objects may change the software business the way microcomputers revolutionized hardware. Dwight B. Davis, *Electronic Business Buyer*, 2/94, p. 39, 3 pp.

**Exploiting the parallelism available in loops.** Comparing scheduling techniques helps programs exploit the parallelism inherent in code loops. David J. Lilja, University of Minnesota; *Computer*, 2/94, p. 13, 14 pp.

**Shrinking devices put the squeeze on system packaging.** Reducing a product's parts count makes it smaller, and more reliable. Charles H. Small, *EDN*, 2/17/94, p. 41, 4 pp.

**Disassembling object code: A misdeed?** Copyright law protects only the manner in which an idea is expressed; state trade secret laws, however, differ. Richard H. Stern, Graham & James; *IEEE Micro*, 2/94, p. 2, 4 pp.

## Peripheral Chips

**Speech-synthesis and -recognition chips personalize consumer products.** Maturing speech-compression coding allows new devices to generate and recognize speech. John Gallant, *EDN*, 2/17/94, p. 27, 4 pp.

## Programmable Logic

**Condense system logic with high-density CPLDs.** Cypress' flash 370 family of electrically erasable complex PLDs offers up to 256 I/Os plus up to 256 macrocells. Dave Bursky, *Electronic Design*, 2/21/94, p. 79, 2 pp.

**PLD-design methods migrate existing designs to high-capacity devices.** Proper methodology ensures your design is portable to higher-capacity, higher-performance PLDs. Mike Trapp, Lattice Semiconductor; *EDN*, 2/17/94, p. 77, 6 pp.

## System Design

**EMC-design tools.** High-speed circuits must not only work by themselves, but they must be electromagnetically compatible with a large community of electronic devices. Doug Conner, *EDN*, 2/17/94, p. 64, 7 pp.

**Fault tolerance in highly parallel hardware systems.** The vast amount of concurrent hardware in parallel systems makes it difficult to guarantee proper system behavior. K.E. Grosspietsch, German National Research Center for Computer Science; *IEEE Micro*, 2/94, p. 60, 8 pp.

**Quantify critical-timing risks with statistical analysis.** Performing a timing analysis using conservative worst-case methods may force you to overdesign or reduce performance unnecessarily. James J. Vorgert, Texas Instruments; *EDN*, 2/17/94, p. 95, 6 pp.

**Minimize time delays and reduce circuit density by retiming a design.** Simple procedures help optimize timing requirements and minimize circuitry. Joap Sondervan, Philips; *EDN*, 2/17/94, p. 107, 3 pp.

**EMC components administer first aid.** Ferrite beads, feedthrough capacitors, shields, and other passive components, if applied early enough, can prevent a design from becoming a casualty. Brian Kerridge, *EDN*, 2/3/94, p. 54, 7 pp.

**Distributed fault tolerance: lessons from Delta-4.** Because it avoids extensive redesign, software-implemented fault tolerance offers a solution that is resilient to change. David Powell, LAAS-CNRS; *IEEE Micro*, 2/94, p. 36, 7 pp.