LITERATURE WATCH

BUSES

Fieldbus delivers digital benefits to industrial applications. This article examines the benefits of a digital field bus, then looks at how easy software has made it to set up and use one, with Foundation Fieldbus as an example. Mike Santori, National Instruments; *Personal Engineering*, p. 44, 6 pp.

RACEway interlink as a PCI switching fabric. A new high-performance scheme that conforms to the PCI 1.0 Bridge Specification transparently links dozens to hundreds of PCI devices without imposing a hierarchical bus structure that limits scalability. Barry Isenstein, Mercury Computer Systems; *RTC*, 2/97, p. 33, 4 pp.

PC/104-Plus—the other alternative. PC/104 has become the most popular embedded-PC standard, used almost universally as the modular basis of many types of embedded systems. Rick Lehrbaum, Ampro; *RTC*, 2/97, p. 39, 3 pp.

Moving on up—the coming migration to 64-bit PCI. For devices requiring more than 132 Mbytes/s, 64-bit PCI is easier to implement than 66-MHz PCI. Todd Comins, Mark Rosenbluth, Digital; *RTC*, 2/97, p. 83, 3 pp.

Flexibility enhances the art of bus-based systems integration. Like an artist's palette, the available choice of technologies offers bus-based systems integrators a new degree of flexibility. Jeff Child, *Computer Design*, 2/97, p. 65, 8 pp.

DEVELOPMENT TOOLS

Logic analyzer hits 500-ps resolution on up to 680 channels. Tektronix's TLA 700 uses a new modular system architecture that makes circuit verification and characterization faster and simpler. John Novellino, *Electronic Design*, 2/3/97, p. 44, 2 pp.

Low-end oscilloscopes. Benchtop and handheld oscilloscopes for under $6,000 offer an inexpensive solution for today's testing applications. *Electronic Products*, 2/97, p. 25, 4 pp.

IC DESIGN

Formal verification tool speeds designers to golden RTL. Chrysalis's Design Insight enables RTL verification to bridge the gap between functional design and implementation. Cheryl Ajluni, *Electronic Design*, 2/3/97, p. 37, 4 pp.

ASIC sign-off alternatives on the upswing. Today's performance- and density-driven ASIC designs are outgrowing dynamic sign-off. The design size, complexity, and feature sizes of modern system-on-a-chip designs mandate a change in sign-off methodology. Barbara Tuck, *Computer Design*, 2/97, p. 54, 5 pp.

MEMORY

Carpe DRAM: Rambus in Asia. With Intel behind it, Rambus could sail across the PC landscape, turning Asia's memory-chip giants into mere camp followers. David Lammers, EE Times; *OEM*, 2/97, p. 24, 7 pp.

SRAMs rev up, close memory-latency gap. Innovations in design and expanding applications bring fast SRAMs up to market speed. *Computer Design*, 2/97, p. 107, 2 pp.

MISCELLANEOUS

The interview: Casey Powell. Sequent's cofounder and CEO surveys the issues and opportunities for leveraging Intel microprocessors into data-center computers. Rick Boyd-Merritt, *OEM*, 2/97, p. 36, 7 pp.

Digital imaging's pixel puzzle. It's going to take more than just low-cost digital cameras for electronic imaging to come together into a mainstream consumer market. Rebecca Day, *OEM*, 2/97, p. 52, 6 pp.

Innovation continues to thrive as circuits get denser and faster. At ISSCC '97, digital advances lead to single-chip MPEG-2 encoders, 600-MHz RISC CPUs, and 4-Gbit DRAMs. Dave Bursky, *Electronic Design*, 2/17/97, p. 41, 5 pp.

At last: DVD is available to the consumer. The first distribution system for digital video offers a dramatic improvement in quality and options that we may never have thought of. Paul McGoldrick, *Electronic Design*, 2/17/97, p. 105, 3 pp.

PROCESSORS

Don't design DSP systems in isolation. Communications design must account for real-world RF effects like channel propagation and amplifier distortion. Carter Smith, HP; *Electronic Design*, 2/3/97, p 55, 6 pp.

Microcontrollers. A sampling of recently introduced microcontrollers. *Electronic Products*, 2/97, p. 43, 5 pp.

Choosing an embedded RISC. This article scrutinizes some of the RISC application, market, and technology forces at work and then presents an overview of the various available RISC architectures. Tom Cantrell; Jim Turley, Micro-Design Resources; *Embedded Systems Programming*, 3/97, p. 60, 7 pp.

PROGRAMMABLE LOGIC

Reconfigurable computing redefines design flexibility. Combining hardware-based speed with software-design flexibility, reconfigurable FPGA-based systems open doors to a new archetype in computer design. John H. Mayer, *Computer Design*, 2/97, p. 49, 3 pp.

SYSTEM DESIGN

Second-generation UMA systems. Performance and cost trade-offs can be made using a shared-memory architecture (SMA) or by employing the Advanced Graphics Port (AGP). Tony Tong, S3; *Electronic Design*, 2/3/97, p. 133, 2 pp.

Power tour through a notebook. A tour of the Toshiba Tecra shows that power must be saved wherever possible. Martin Reynolds, Dataquest; *OEM*, 2/97, p. 60, 7 pp.

Recent advances in rechargeable batteries. Knowledge of battery chemistries and their pros and cons goes a long way toward optimizing designs for portable systems. Pnina Dan, Tadiran; *Electronic Design*, 2/3/97, p. 112, 3 pp.