

BUSES

FireWire getting hot. IEEE 1394 is the "RCA jack" of tomorrow which, like its ubiquitous predecessor, will inspire a whole new wave of products and applications. Tom Cantrell, *Computer Design*, 10/97, p. 81, 4 pp.

MIL-STD-1553 alternatives look to knock off the king. Fibre channel is among the contenders with the specifications to offer a challenge. Duncan Young and John Wemekamp, DY 4 Systems; *Electronic Design*, 9/97, p. 162, 1 pp.

The VMEbus picks up a flexible passenger. If it's bridged properly, PCI lets designers easily add functionality. Jonathan Morris, Tundra Semiconductor; *Electronic Design*, 9/97, p. 166, 2 pp.

Understanding and using the I²C bus. This article describes the inter-IC control bus, a two-wire bus for providing a communication link between integrated circuits. James C. Flynn, *Embedded Systems Programming*, 11/97, p. 52, 10 pp.

Ultra2 SCSI adds performance, but requires extra design effort. New parameters and design challenges can be met by taking advantage of LVD signaling technology. Barry Caldwell and Larry Barnes, Symbios Logic; *Electronic Design*, 10/97, p. 71, 4 pp.

IC DESIGN

VSIA pushes ahead on two new fronts. Two key areas of VC-based chip design have moved quickly from development through the approval process: mixed signal and implementation/verification. Larry Waller, *Virtual Chip Design*, 11/97, p. 4, 3 pp.

The system-on-a-chip: It's not just a dream anymore. High-density processes, multiple memory technologies, and mixed-signal capabilities combine to realize what was once unattainable. Dave Bursky, *Electronic Design*, 10/97, p. 105, 7 pp.

MISCELLANEOUS

Adapting Java for embedded systems. Embedded tools vendors overcome Java's limitations to make it an attractive embedded development language. Peter Varhol, *Computer Design*, 10/97, p. 75, 4 pp.

Tackle real-time applications with Windows NT. Following the precedent of the PC architecture, the Windows NT operating system has entered the embedded-systems arena. For the right applications, it can be a contender. Richard A. Quinnell, *EDN*, 9/97, p. 61, 5 pp.

Gas-gauge IC performs precise battery measurements. Benchmarq's bq2018 improves battery management while reducing battery subsystem size and cost. Richard Nass, *Electronic Design*, 10/97, p. 39, 3 pp.

PERIPHERALS

Seeing red: The IrDA protocol. Infrared has a glowing future. It will play an increasingly important role in wireless data communications. John Canosa, *Embedded Systems Programming*, 11/97, p. 30, 12 pp.

Choosing the right Ethernet switching chips. Cost per port and firmware control are vital. Louis Pengue, PMC-Sierra; *Electronic Products*, 10/97, p. 45, 12 pp.

PROCESSORS

RISC controller merges DSP and control functionality. Tricore processors ease system design by combining the best features of DSPs and high-performance embedded controllers. Dave Bursky, *Electronic Design*, 9/97, p. 39, 4 pp.

Enticing an infant market. Semiconductor makers are aiming highly integrated processors at the nascent market for network computers. Tam Harbert, *Electronic Business Today*, 10/97, p. 49, 3 pp.

PROGRAMMABLE LOGIC

Complex PLDs. A directory of PLDs with at least 800 gate-equivalents. *Embedded Systems Programming*, Buyer's Guide 1997, p. 124, 3 pp.

SYSTEM DESIGN

Sub-5-V circuits and ESD. International electrostatic discharge standards pose challenges to portable systems designers. A new diode technology helps thwart ESD. Thomas Dugan, *Portable Design*, 9/97, p. 44, 2 pp.

Flat-panel and CRT displays. Here is a sampling of recently introduced flat-panel and CRT displays. *Electronic Products*, 9/97, p. 39, 7 pp.

Power supply ICs. Here are new and recently released ICs for use in power supply applications. *Electronic Products*, 9/97, p. 67, 9 pp.

New paradigms ensure high-performance PCBs. Major CAE companies are advocating that design engineers shoulder much of the burden of PCB analysis up front. Charles H. Small, *Computer Design*, 10/97, p. 60, 4 pp.

Perspective on portable design. Who says you can't take it with you? Mass storage for portables—both rotating disk and solid state—is expanding in density and variety. Terri Houston, *Portable Design*, 9/97, p. 31, 4 pp.

DSP design issues for portables. Signal processing of noisy dynamic signals places unique demands on designers. Here's an overview of some of the issues you'll likely face when using DSP. Chen Sagiv, DSP Group; *Portable Design*, 10/97, p. 44, 3 pp.

Cool-running DSP design. As switching speeds increase, power dissipation looms as a key DSP design factor. A clear advantage goes to the DSP chip that performs a function as quickly as possible, dissipating the least power. Mark Matson, Texas Instruments; *Portable Design*, 10/97, p. 49, 2 pp.