

AUDIO/VIDEO

Understanding, enhancing, and measuring PC-audio quality. PC designers need a good analog primer, including performance characteristics and test procedures, to design a quality PC-audio system. Steven Harris, Crystal Semiconductor; *EDN*, 4/10/97, p. 173, 9 pp.

BUSES

Tips on designing a high-end CompactPCI board. CompactPCI is the new kid on the block but could soon turn into a formidable competitor. Jim Medeiros, Ziotech; *Electronic Design*, 4/1/97, p. 112, 4 pp.

VXI enters its second decade. The VXIbus keeps pace with advancing measurement needs. David Haworth, Tektronix; *Electronic Products*, 4/97, p. 23, 3 pp.

Universal serial bus ICs. Here are some recently announced hub and node peripheral interface chips for the Universal Serial Bus, as well as USB cores for ASIC designs. *Electronic Products*, 4/97, p. 35, 4 pp.

IC DESIGN

Verifying the PA-8000's FPU. Complex high-speed logic requires different methods for verification. David Smentek, Glenn Colon-Bonet, HP; *Integrated System Design*, 3/97, p. 18, 7 pp.

Growing your own IC clock tree. Defining the clock-distribution network is one of the most difficult aspects of high-speed system-on-a-chip design. Jim Lipman, *EDN*, 3/14/97, p. 41, 8 pp.

HDL graphical-design entry tool converts text to graphics. Summit Design's text-to-graphics conversion preserves design legacy, supports code reuse, and enables insight into results of behavioral synthesis. Cheryl Ajluni, *Electronic Design*, 3/17/97, p. 41, 4 pp.

Low-power ASIC design. Reduce power in an ASIC with these tricks and techniques. Jerry Frenkil, Sente; *Integrated System Design*, 3/97, p. 40, 5 pp.

Links from logical to physical a must for deep submicron ASIC design. Unless you want to perform a few dozen iterations between synthesis and layout, you have to consider physical design details early in the design cycle. Barbara Tuck, *Computer Design*, 4/97, p. 49, 3 pp.

MEMORY

FRAM: ready to ditch niche? After years as an "almost-here" technology, is ferroelectric RAM finally ready for cost-effective, high-volume production? Brian Dipert, *EDN*, 4/10/97, p. 93, 9 pp.

MISCELLANEOUS

56-Kbit/s modems: Hey! How'd they do that? PCM-based modems are here, promising to operate at near-ISDN speeds over POTS lines. Lee Goldberg, *Electronic Design*, 3/17/97, p. 121, 6 pp.

Chips for hard disk drives help slash storage costs. A quiet revolution in the internal electronics of disk drives has contributed to huge increases in storage capacity, faster data rates, lower error rates, and plunging costs. Mike Elphick, *Computer Design*, 4/97, p. 39, 3 pp.

Routers make the hyperlink. Router makers are reaching for RISC chips, fast interfaces, and new switch architectures to keep pace with the burgeoning needs of the Internet. Barry Phillips, *OEM*, 4/97, p. 54, 7 pp.

Designers bring life to multimedia from behind the scenes. Clever design and the integration of hardware and software introduce compelling multimedia applications to the marketplace. Peter Varhol, *Computer Design*, 4/97, p. 59, 10 pp.

PROCESSORS

Top-performing CPUs deliver no-compromise multimedia. Enhanced architectures allow the latest CPUs to execute multimedia algorithms with ease. Dave Bursky, *Electronic Design*, 3/17/97, p. 67, 8 pp.

Switching RISC architectures the easy way. Choosing the right replacement can ease the pain of the resulting hardware and software redesign. John Canosa, Questra Consulting; *EDN*, 3/14/97, p. 111, 8 pp.

SYSTEM DESIGN

Designing the ultimate network computer board. Sun addresses the challenge of building a high-performance server with off-the-shelf components. Robert Feretich, Richard A. Raffel, Sun; *Integrated System Design*, 3/97, p. 30, 5 pp.

Interview: Jim Bartlett. IBM's Mr. Mobile outlines directions on the roadmap for the notebook computer, both as a product and as a business. David Lieberman, *OEM*, 4/97, p. 48, 4 pp.

Desktop directions '97. Eleven authors look at what's in store for the network computer, broadcast PC, computer telephony, and multimedia. *OEM*, 4/97, p. 29, 14 pp.

High-speed PCB and MCM design. Tools for both circuit simulation and layout must meet the challenges of high-speed PCB and MCM designs, yet engineers must maintain current time-to-market intervals as their design tasks get more difficult. Charles Small, *Integrated System Design*, 3/97, p. 50, 3 pp.

The ten commandments of excellent design. Instability and unreliability in synchronous systems can be avoided by rigorously following these design rules. Peter Chambers, VLSI; *Electronic Design*, 4/1/97, p. 33, 5 pp.

Portable PC CPUs need unique power supplies. Portable personal computer CPUs need efficient low-voltage power sources to run off batteries, wall adapters, and 5- or 3-V regulated rails. Frank Goodenough, *Electronic Design*, 4/1/97, p. 64, 6 pp.

Embedded PC system software migrates desktop technology to the embedded world. The lure of an embedded system based on the PC architecture is great. Brian L. Bishop, *Personal Engineering*, 4/97, p. 35, 6 pp.

Toward systematic design of fault-tolerant systems. After 30 years of study and practice in fault tolerance, high-confidence computing remains a costly privilege of several critical applications. Algirdas Avizienis, UCLA; *Computer*, 4/97, p. 51, 8 pp.