AUDIO/VIDEO

We've seen the future, and it lies in DVD. DVD offers a capacity that's nearly 10× over CD-ROM in its first implementation, with even higher capacities just over the horizon. Richard Nass, *Electronic Design*, 8/18/97, p. 52, 5 pp.

DVD: breathtaking sight and sound, significant challenges. Designers simply have to figure out how to decode the compressed video and audio, mix DVD and graphics, handle security and encryption, and do it all cheaply. Maury Wright, *EDN*, 8/15/97, p. 47, 7 pp.

BUSES

The Universal Serial Bus is ready to take off. Components and end products hit the street. Richard Nass, *Electronic Design*, 8/4/97, p. 56, 2 pp.

DEVELOPMENT TOOLS

Bondout yields to test-access port for 32-bit x86 emulation. The test-access port on Pentium-class chips obviates the need for device manufacturers to create and fabricate bondout processors. Brian L. Bishop, *Personal Engineering*, 8/97, p. 31, 5 pp.

DSP

DSPs excel in motor-control applications. By using a DSP for electric motor control, you can expect lower costs, better reliability, and less energy consumption. Issa Panahi, et al, TI; *EDN*, 8/15/97, p. 111, 5 pp.

IC DESIGN

Turning to formal verification. Cray Research learns firsthand about the current capabilities of formal methods. Scott Schroeder, Cray Research; *Integrated System Design*, 9/97, p. 14, 5 pp.

Computer simulation avoids EMI/EMC problems in high-speed IC packages. Simulation techniques can help you anticipate signal-integrity and EMI/EMC issues in high-density, high-speed IC-package design. Zoltan J. Cendes, et al, Ansoft; *EDN*, 8/1/97, p. 38, 5 pp.

Building a multimedia videoconferencing chip with a synthesizable PCI core. Harris learns that the test environment is almost as important as the core. Scott Brandt, Harris; *Integrated System Design*, 9/97, p. 22, 3 pp.

Managing power in a million-gate IC design. Part of the solution to managing power is to address the power-supply connections. Don Hanson, Hal Computer, and Teng-Sheng Moh, Silicon Valley Research; *Integrated System Design*, 9/97, p. 28, 4 pp.

PERIPHERALS

802.11 wireless LANs: a blueprint for the future? The IEEE's newest specification could pave the way for future RF- and IR-based networks. Lee Goldberg, *Electronic Design*, 8/4/97, p. 44, 5 pp.

PROCESSORS

Speedy 8-bit microcontroller crafts virtual peripherals. Scenix Semiconductor's SX delivers 50 MIPS at 50 MHz. Dave Bursky, *Electronic Design*, 8/4/97, p. 36, 4 pp.

Chips, chips everywhere. Consumer applications drive market for 8-bit microcontrollers. Ann Steffora, *Electronic Business Today*, 8/97, p. 41, 3 pp.

PROGRAMMABLE LOGIC

Programmable logic diversifies and increases capacity. Recent products include the first bipolar FPGA as well as a CMOS FPGA exceeding 100,000 gates. Rodney Myrvaagnes, *Electronic Products*, 8/97, p. 23, 3 pp.

Programmable logic: beat the heat on power consumption. Wise device selection and design techniques can significantly improve your chances of coming in under the power budget. Brian Dipert, *EDN*, 8/1/97, p. 57, 10 pp.

Low-voltage FPGAs allow 3.3V/5V system design. As device geometries and operating voltages shrink, guidelines ease mixed-voltage logic design worries. Peter Alfke, Xilinx; *Electronic Design*, 8/18/97, p. 70, 4 pp.

Integers out of sorts? Program an FPGA to put them in order. Designing integer-sort algorithms into FPGAs isn't as difficult as you might think. The payoff can be huge: short design time, flexibility, and fast operation. Cory Peichel, Raytheon; *EDN*, 8/15/97, p. 95, 5 pp.

SYSTEM DESIGN

Rugged products, tough applications. Some designs really have it tough. For them, you'll probably need to use some special, rugged components. *EDN*, 8/15/97, p. 65, 4 pp.

Java perks up embedded systems. Although some problems, including a shortage of tools beyond initial debugging, are slowing Java's expansion, the eventual payoffs will be worth the wait. Richard A. Quinnell, *EDN*, 8/1/97, p. 38, 8 pp.

Tackling control systems takes talent and tools. Designing microprocessor-based electromechanical systems is no job for a lone-wolf developer; even multidisciplinary teams need powerful software and, often, hardware tools. Dan Strassberg, *EDN*, 8/1/97, p. 83, 6 pp.

Design techniques for plug-and-play in "smart homes" and consumer products. Industry puts its weight behind standards for networked home subsystems. Larry Stickler, Honeywell, and Brian Markwalter, Intellon; *Electronic Design*, 8/18/97, p. 64, 4 pp.

Transient response testing for wireless portables. Battery loading can zoom from milliamps to amperes in microseconds. Your test system must include a power supply capable of responding quickly to transient load changes. Kevin Cawley, Keithley Instruments; *Portable Design*, 8/97, p. 33, 3 pp.

Keep those switchers quiet! Nomadic-systems switching supplies can source rampant EMI. Here are some tips to help you keep conducted emissions from upsetting your design. Brooks R. Leman, Power Integrations; *Portable Design*, 8/97, p. 39, 4 pp.