

Literature Watch

Buses

Distributed-DMA techniques allow easy migration from the ISA bus to the PCI bus. A technique using distributed DMA offers upward compatibility for ISA-legacy devices in PCI-bus systems and provides a vast improvement in performance. David Evoy, VLSI Technology; *EDN*, 11/23/95, p. 103, 8 pp.

Development Tools

You need little more than a PC to test and program IEEE-1149.1-compliant ICs. Let the IEEE-1149.1 test-access port program embedded memory and access peripherals at your workbench. Dmitrii Loukianov, Intel; *EDN*, 11/9/95, p. 171, 11 pp.

Get the most from improved emulators. The role of in-circuit emulators is expanding in the development of complex embedded systems. Rick Leatherman, Microtek; *Electronic Design*, 11/20/95, p.157, 4 pp.

Graphics/Video

Multimedia codecs move beyond basic conversion. Audio multimedia codecs have grown from basic converters into complex and sophisticated interfaces, supporting various sound and data-telephony applications. Bill Schweber, *EDN*, 11/9/95, p. 73, 8 pp.

As video codecs mature, two take the spotlight. MPEG and Indeo pull ahead in the race to be the king of codecs. Richard Nass, *Electronic Design*, 11/20/95, p. 65, 5 pp.

Miscellaneous

SPEC95 is new microprocessor benchmarking standard. The SPEC benchmarks, the de facto standards for measuring chip performance, are moving to a new benchmark set—SPEC95. Ray Weiss, *Computer Design*, 11/95, p. 41, 2 pp.

Wescon/95 highlights communications and new technologies.

Concurrent engineering, European electromagnetic compatibility requirements, and environmental issues also get heavy coverage. John Novellino, *Electronic Design*, 11/6/95, p. 48, 5 pp.

Touchscreen technology. Innovations in design and manufacture have made touchscreens tougher and more versatile. Now, touchscreens are expanding as dual-mode pen-and-touch systems emerge. Richard A. Quinnell, *EDN*, 11/9/95, p. 52, 9 pp.

The QNX operating system. At least 46 companies are offering real-time operating systems for a variety of platforms and programming languages. David C. Sastry and Mettin Demirci, Ohio State University; *IEEE Computer*, 11/95, p. 75, 3 pp.

Peripherals

Network-switch ICs simplify design and slash per-port costs. Ethernet switching technology is proving to be the best answer to LAN-bandwidth limitations. It also offers a gateway to emerging technologies, such as ATM. Maury Wright, *EDN*, 11/23/95, p. 53, 6 pp.

Smart cards. Long popular in Europe, smart cards are now starting to crack the U.S. market. Enhanced smart-card ICs are the driving force. The latest ones go to great lengths to protect smart cards from fraudulent use. John Gallant, *EDN*, 11/23/95, p. 34, 6 pp.

PC Card standards keep up with the times. At Comdex, CardBus, Zoom Video, and Windows 95 are lighting the path for the future of PC cards. Richard Nass, *Electronic Design*, 11/6/95, p. 63, 5 pp.

Host adapters comply with Ultra-SCSI specification. PCI-based boards allow data transfers of 20 or 40 Mbytes/s across the SCSI bus. Richard Nass, *Electronic Design*, 11/6/95, p. 171, 2 pp.

NIC-on-a-chip promises to push ATM to the desktop. A single chip containing both a complete 155-Mbps ATM interface and PCI bus controller may signal the dawn of ATM's maturity as its cost drops below \$1,000 per seat. Lee Goldberg, *Electronic Design*, 11/6/95, p. 175, 2 pp.

Processors

RISC processors target high-end communications and office automation. The SPARC Technology Business has relaunched an initiative to foster the use of the SPARC architecture in embedded applications. Dave Bursky, *Electronic Design*, 11/6/95, p. 38, 3 pp.

RISC-based single-chip processor targets PDAs. Designed with low cost and low system power in mind, The PR30100 IC integrates as much PDA functionality as possible at a practical price. Peter Fletcher, *Electronic Design*, 11/20/95, p. 55, 5 pp.

Programmable Logic

FPGA densities hit 20 kgates with pASICs. Enhanced second-generation FPGA family from QuickLogic more than doubles the gate density without increasing chip area or slowing the logic. Dave Bursky, *Electronic Design*, 11/20/95, p. 169, 3 pp.

CPLD/FPGA devices, tools lure PLD designers into faster, denser logic. By switching to denser logic and top-down design methods, you'll get a bigger bang for your buck, promise silicon and EDA vendors. Mike Donlin, *Computer Design*, 11/95, p. 81, 10 pp.

System Design

Supercharge Pentium-class PC motherboards. Maximum horsepower has become mandatory for today's Pentium-class PC applications. Whether multimedia functionality is provided by CPU-based NSP or DSP-based distributed processing, the throttling mechanism is the system chip set. Gary D. Hicok, VLSI Technology; *Electronic Design*, 11/6/95, p. 128, 4 pp.