LITERATURE WATCH

DEVELOPMENT TOOLS

EDA tools accelerate high-speed PC-board design. Faster chips in higher-pin-count IC packages are making it difficult to design fast and dense PC boards. Jim Lipman, *EDN,* 3/28/96, p. 87, 9 pp.

PC toolset focuses on interconnect design. Viewlogic's ISIS interconnect design system includes inVision, an optimized analysis environment that combines signal-integrity and timing analysis with floorplanning and PC-board routing software. Lisa Maliniak, *Electronic Design,* 3/4/96, p. 137, 2 pp.

RTL floorplanner predicts timing, power for deep-submicron ICs. High Level Design System's Top-Down DP RTL floorplanner enables the transition from RTL to data flow to RTL floorplan to post-synthesis place and route. Barbara Tuck, *Computer Design,* 3/96, p. 56, 3 pp.

DSP

Frequency-domain DSP: an enabling technology. Most of today's DSP chips operate in the time domain, but the frequency domain is better suited for certain operations. Michael E. Fleming, Butterfly DSP; *EDN,* 3/28/96, p. 127, 6 pp.

Avoiding DSP performance problems up front. DSP hardware issues and tricks of the trade that will help get your system up and running to the desired performance levels. Gene Pikus, Alliant Techsystems; *Electronic Design,* 3/4/96, p. 75, 5 pp.

DSP directory. This directory describes more than 28 DSP architectures and provides concise, useful information to help you select a DSP for your next design. Markus Levy, Anne Coyle, *EDN,* 3/1/96, p. 41, 27 pp.

DSPs wrestle with CPUs in the embedded arena. Today, DSP ICs are a mainstream design option, delivering high math performance and challenging microprocessors and microcontrollers for embedded-system sockets. Ray Weiss, *Computer Design,* 3/96, p. 75, 10 pp.

Motorola's DSP568xx takes the low road, $10. Motorola moves from 24 to 16 bits, cutting the power and price of its entry-level device. *Computer Design,* 3/96, p. 116, 2 pp.

GRAPHICS/VIDEO

Integrated 3D graphics architecture drops Z-buffer and provides scalability. NEC and Videologic have teamed to create the PowerVR chip set, which can render up to one million polygons per second. Dave Bursky, *Electronic Design,* 3/18/96, p. 42, 2 pp.

Delivering digital video. Designers now have the ICs necessary to implement the broadband network architectures that service providers have plotted. Maury Wright, *EDN,* 3/14/96, p. 39, 9 pp.

PC graphics struggle to incorporate 3D. Understanding the trade-offs involved in 3D acceleration will keep early adopters from getting thrown. Richard A. Quinnell, *EDN,* 3/14/96, p. 61, 9 pp.

PROCESSORS

Tuned RISC devices deliver top performance. The latest crop of 32-bit RISC processors integrates many functions to trim system costs. Dave Bursky, *Electronic Design,* 3/18/96, p. 77, 12 pp.

Combo RISC CPU and DRAM solves data bandwidth issues. Mitsubishi's M32R/D combines a 32-bit CPU and 16 Mbits of DRAM on a single chip. Dave Bursky, *Electronic Design,* 3/4/96, p. 67, 4 pp.

PROGRAMMABLE LOGIC

CPLDs add dedicated memory, counters to up performance. Lattice Semiconductor can combine a FIFO, or dual- or single-port RAM, with its CPLDs. Dave Bursky, *Electronic Design,* 3/4/96, p.141, 2 pp.

Reconfigurable logic: hardware speed with software flexibility. Reconfigurable logic lets you dynamically alter hardware in real time, blurring the boundary between hardware and software. Doug Conner, *EDN,* 3/28/96, p. 53, 9 pp.

FPGAs and CPLDs target specialized applications. Atmel, Xilinx, and AMD spice up PLDs with cache memory, CardBus, and high-speed interfaces, respectively. Mike Donlin, *Computer Design,* 3/96, p. 48, 2 pp.

SYSTEM DESIGN

Chip set puts 100 Kbits/s of data on noisy power lines. Spread-spectrum techniques yield wireless bit-error rates of 10^{-9}, aiding design of power-line communication systems. Frank Goodenough, *Electronic Design,* 3/18/96, p. 177, 5 pp.

Designing CD-quality audio into portable PCs. APM and high integration levels help add multimedia functionality. Steven Harris, Crystal Semiconductor; *Electronic Design,* 3/4/96, p. 99, 4 pp.

Avoid pitfalls in dimming and shutting down CCFL backlighting for LCDs. Providing high-efficiency backlighting for LCDs is easier than it used to be, thanks to ICs tailored for the purpose, but several elements of the circuit design will require care. Jim Williams, Linear Technology; *EDN,* 3/14/96, p. 103, 5 pp.

Live insertion: do it without killing your system. Jamming a board into a live system sounds foolhardy, but a properly designed live-insertion system adds benefits, such as reliability, to your system. Richard A. Quinnell, *EDN,* 2/1/96, p. 63, 6 pp.

The prêt-à-porter PC. The future of personal computing may be in a nascent class of ready-to-wear systems that could someday become woven into the fabric of a whole new industry. Jacqueline Henry, *OEM Magazine,* 2/96, p. 26, 7 pp.