LITERATURE WATCH

ASICS

Choosing the right deep-submicron ASIC process for your system. If you select an ASIC process based on technology minimum feature size, you will probably ignore many cost-effective processes. David Pivin, Motorola; *EDN,* 4/11/96, p. 139, 5 pp.

BUSES

Fieldbus brings protocol to process control. After years of negotiation, the process-control industry appears ready for a common digital communications technology. Mike Santori, National Instruments, Kurt Zech, Fieldbus Foundation; *IEEE Spectrum,* 3/96, p. 60, 5 pp.

PC Cards zoom ahead. Two new technologies—Zoom Video and Cardbus—are linking up to enable new classes of fast networking and multimedia-oriented PCMCIA cards. W. David Gardner, *OEM Magazine,* 3/96, p. 71, 5 pp.

PCI: real vs. ideal. Measurements of real PCI systems found performance approaching the theoretical maximum. Steven H. Leibson, *EDN Europe,* 3/96, p. 19, 6 pp.

DEVELOPMENT TOOLS

A guide to PCB layout tools for Windows. Some basic information that will help you sort through what's currently available in PC-board layout tools for your PC. Lisa Maliniak, *Electronic Design,* 4/1/96, p. 65, 7 pp.

EDA tools migrate along different paths to Windows 95 and Windows NT. The new 32-bit PC-based applications promise better integration, higher functionality, and improved robustness. Jonathan Novick, Hewlett-Packard; *Electronic Products,* 4/96, p. 39, 2 pp.

GRAPHICS/VIDEO

Full-feature MPEG-2 encoder needs just five logic ICs. LSI's VISC chip set uses a programmable architecture to reduce complexity. Dave Bursky, *Electronic Design,* 4/1/96, p. 137, 3 pp.

Decoder chip set trims set-top-box complexity. Hyundai's HDM8511P demodulates, filters, and synchronizes MPEG-2 data streams. Dave Bursky, *Electronic Design,* 4/1/96, p. 143, 3 pp.

Multimedia accelerators fight bandwidth and integration battles. A survey of audio and video accelerators for the PC. Jeff Child, *Computer Design,* 4/96, p. 113, 5 pp.

MISCELLANEOUS

The measured performance of personal computer operating systems. A comparison of the software overhead in Windows 3.1, Windows NT, and NetBSD (Unix). J. Bradley Chen, Yasuhiro Endo, et al, Harvard University; *ACM Transactions on Computer Systems,* 2/96, p. 3, 38 pp.

IrDA-protocol IR links make 35-fold leap in data-transfer speed. Bandwidth increases to 4 Mbps in the latest specification. Bill Travis, *EDN,* 4/11/96, p. 63, 7 pp.

Cable modems: the journey from hype to hardware. The choices of technologies and standards being made today will determine their future success. Lee Goldberg, *Electronic Design,* 4/15/96, p. 65, 8 pp.

Inside the network computer. Some IS industry executives discuss the issues behind the so-called $500 network computer. *OEM Magazine,* 4/96, p. 60, 8 pp.

PERIPHERALS

Multimedia IC employs DSP architecture. Crystal's CS4610 audio accelerator handles wavetable and 3D sound. Richard Nass, *Electronic Design,* 4/1/96, p. 149, 2 pp.

CCDs ride the tailcoat of digital convergence. With the high volume in the consumer-based camcorder market driving down overall cost, CCDs are omnipresent in everything from niche applications in the lab to bar-code readers at the local store. Patrick Mannion, *Electronic Products,* 4/96, p. 27, 5 pp.

PROCESSORS

RISC vs. RISC: comparing μP architectures. A survey of RISC processors for embedded applications. Markus Levy, *EDN,* 4/11/96, p. 81, 9 pp.

Controller integrates Universal Serial Bus with 251 CPU. Intel's 82930A combines an 8-bit 8051-compatible CPU with a USB interface. *Computer Design,* 4/96, p. 98, 1 pg.

Microcontroller grabs and processes analog data. Microchip's PIC14000 combines a low-cost 8-bit CPU with a 16-bit ADC to control battery charging. Frank Goodenough, *Electronic Design,* 4/15/96, p. 139, 4 pp.

PROGRAMMABLE LOGIC

Use caution when choosing PCI-compatible FPGAs. Several vendors provide PCI interfaces for their FPGAs, but specifications vary. Mike Donlin, *Computer Design,* 4/96, p. 38, 3 pp.

SYSTEM DESIGN

Performance issues stir the UMA debate. Some say UMA's the ideal way to shave dollars off system cost. Others say it's the wave of the future. Still others say it requires an unacceptable sacrifice in performance. Jeff Child, *Computer Design,* 4/96, p. 53, 4 pp.

Dedicated I/O speeds throughput of multiprocessor systems. Fibre Channel, PCI, and VMEbus extensions speed system-to-peripheral data throughput and overall system performance. Stephan Ohr, *Computer Design,* 4/96, p. 50, 7 pp.

Making sense of flash. Using flash memory for mass storage requires a new file system and host interface. Jeff Molson, IBM; *Portable Design,* 3/96, p. 45, 3 pp.

Perspectives on portable design. Now that it's possible to build complete 3-volt systems, the push is on for sub-3-volt designs. Frank Caruthers, *Portable Design,* 2/96, p. 31, 8 pp.