

Literature Watch

ASICs

Clock-oscillator ASIC makes for custom timing. With the addition of your crystal, an application-specific oscillator IC lets you roll your own references. David Maliniak, *Electronic Design*, 10/2/95, p. 143, 2 pp.

Buses

PCI: real vs. ideal. Can the PCI bus really achieve 132 Mbytes/sec today? EDN's PCI Project Dream Team met for four days in Colorado Springs to answer this and other PCI-related questions. Steven H. Leibson, *EDN*, 10/26/95, p. 59, 6 pp.

Adapting SCSI to new devices. Although SCSI can help increase the communication performance of an embedded device, designing a SCSI interface can be a formidable challenge. John Linn, Amtech Systems; *Embedded Systems Programming*, 11/95, p. 58, 8 pp.

New peripheral interfaces: fast & full of features. The venerable IDE and SCSI are newly enhanced. New interfaces, such as USB, SSA, and Fibre Channel are becoming available. Maury Wright, *EDN*, 10/12/95, p. 69, 8 pp.

Development Tools

"Xs" in digital simulation: beware, here be dragons! Anyone using a digital simulator can expect to encounter the dreaded "X" value, but there are few who truly understand its precocious sense of fun. Clive "Max" Maxfield, Intergraph Electronics; *EDN*, 10/12/95, p. 139, 5 pp.

Solving the configurable, core-based-chip puzzle: EDA tools put it together. For custom chips based on CPU or DSP cores, the right EDA tools are critical. Jim Lipman, *EDN*, 10/26/95, p. 81, 8 pp.

Graphics/Video

Reprogrammable IC takes on graphics, video, and audio. Chromatic's Mpack chip eases multimedia system design by performing many tasks at the same time. Dave Bursky, *Electronic Design*, 10/13/95, p. 133, 4 pp.

Miscellaneous

On the road (map): interconnects face the future. With a goal of extremely dense PC boards and multichip modules, the industry assesses its own strengths and weaknesses. David Maliniak, *Electronic Design*, 10/13/95, p. 77, 6 pp.

Broadband to the home: challenges on the last mile. Selecting the proper technologies may mean success or failure for the competing telephone and cable giants, and will shape their future networks. Lee Goldberg, *Electronic Design*, 10/2/95, p. 67, 9 pp.

Understanding assembly language listings from C compilers. An overview of how C compilers translate source code into assembly language. Robert Winter, *Embedded Systems Programming*, 11/95, p. 94, 16 pp.

Peripherals

Brains and bandwidth: fiber service at copper prices. New chip set from AT&T and Broadband Technologies delivers video, telephony, and high-rate ATM over twisted-pair copper telephone lines. Lee Goldberg, *Electronic Design*, 10/2/95, p. 51, 5 pp.

CCDs let you design vision into applications. Charge-coupled devices (CCDs) provide versatile image detection for many industrial and commercial applications. John Gallant, *EDN*, 10/12/95, p. 87, 5 pp.

12-bit IC ADCs relieve error budgets. These general-purpose ADCs couple low cost to sampling rates beyond 1 MHz while adding a wealth of useful features. Frank Goodenough, *Electronic Design*, 10/13/95, p. 57, 5 pp.

Silicon accelerometer targets airbag restraint systems. Motorola's MMA540G uses micromachining techniques to offer a fully integrated, signal-conditioned turnkey automotive acceleration sensor. Cheryl Ajluni, *Electronic Design*, 10/13/95, p. 143, 2 pp.

Processors

Streamlined custom processors: when stock performance won't cut it. Designing your own $\mu P/\mu C$ or DSP core-based system on a chip gives you access to core interfaces that wouldn't be available in a standard, off-the-shelf device. Markus Levy, *EDN*, 10/12/95, p. 49, 9 pp.

Programmable Logic

GaAs arrays outperform fast CMOS circuits at lower power. Vitesse's low-power GaAs gate arrays tackle high-performance system needs. Dave Bursky, *Electronic Design*, 10/13/95, p. 139, 2 pp.

System Design

Novel diode protects low-voltage lines from ESD. New diode structure protects sub-5-V power rails and logic lines from voltage surges caused by electrostatic discharge. Frank Goodenough, *Electronic Design*, 10/13/95, p. 69, 3 pp.

High-speed-connector systems. In high-speed systems, you can't afford to look at connectors as just blobs of plastic and pins. Instead, adopt a systems approach that takes account of the connectors' complex interaction with other parts of the host-system design. Bill Travis, *EDN*, 10/26/95, p. 41, 9 pp.

Choosing a heat sink: some tips and recommendations. There can be a bit more to choosing a heat sink than you might think. You need to consider thermal performance in addition to a variety of physical configurations. Catharina Biber, Wakefield Engineering; *EDN*, 10/12/95, p. 125, 6 pp.

Consider product cost an important design parameter. Instead of taking a simplistic approach to cost and profit, designers should weigh the effects of the price/volume market demand curve. Morris Engelson, Joint Management Strategy; *Electronic Design*, 10/2/95, p. 99, 2 pp.