Literature Watch

ASICs

Multithreaded Verilog HDL simulator runs on Sun multiprocessor machines. In the wake of the Design Automation Conference, new tools and products surface to simplify ASIC creation. *Computer Design,* 6/94, p. A11, 2 pp.

Low-power ASICs save board space and time to market. The relentless demand for low power has driven designers to use dense ASICs with thermal management. John Gallant, *EDN,* 7/7/94, p. 41, 6 pp.

Buses

PCI bus links directly to processor bus. A high-performance controller can become a bus master and manage transfers up to 132 Mbps. Richard Nass, *Electronic Design,* 6/13/94, p. 155, 2 pp.

Development Tools

Logic analyzer connectivity is getting better. Connecting logic-analyzer probes to the system under test has long been a subject for improvement; now vendors are also looking at the analyzer-to-development environment connection. Bill Furch, Jim Egbert, Hewlett-Packard; *Electronic Products,* 7/94, p. 37, 4 pp.

Analog or digital scope—which way to go? Modern DSOs offer bandwidth and price equivalent to analog models while providing unique features. Chris Martinez, Ely Shemesh, Tektronix; *Electronic Products,* 7/94, p. 43, 5 pp.

Layout techniques boost dynamic range for high-speed ICs. A systematic approach to good grounding and bypassing practices allows high-speed analog circuits to deliver dynamic range equivalent to Spice predictions. Rosie Loaiza-Montiel, Burr-Brown; *EDN,* 6/23/94, p. 99, 4 pp.

Miscellaneous

Cadam free at last. Apple's MAE (Macintosh Application Environment) lets SPARC and HP9000 workstation users run Macintosh software. Alan D. Smith, *Advanced Systems,* 7/94, p. 60, 3 pp.

Understanding communications performance. Using Motorola's 68360 QUICC as a trial horse demonstrates the effects of physical media, bus latency, and throughput limitations on communications performance. Robert O'Dell, *Embedded Systems Programming,* 7/94, p. 40, 7 pp.

Mac protocols: the key to robust wireless systems. Clever protocols may provide a solution to what promises to be serious congestion of the electromagnetic spectrum. Lee Goldberg, *Electronic Design,* 6/13/94, p. 63, 5 pp.

Peripherals

SCSI controller excels in handling multitasking. As storage subsystems are forced to handle greater levels of multitasking, SCSI controllers must become more sophisticated. Dave Bursky, *Electronic Design,* 6/13/94, p. 71, 6 pp.

IC brings workstation 3D graphics to PCs. The GLiNT processor from 3Dlabs achieves 100 Winmarks on 2D operations without degrading simultaneous 3D operations. Peter Fletcher, *Electronic Design,* 6/13/94, p. 158, 4 pp.

Processors

No-compromise controller combines DSP, datacom. Motorola's 68356 combines a 68000 core, a 24-bit DSP, a PCMCIA controller, and multiple high-speed serial channels. Dave Bursky, *Electronic Design,* 6/13/94, p. 79, 5 pp.

PowerPC goes after x86 PCs and embedded systems. Versions of the PowerPC have found homes both on the desktop and as controllers inside smart peripherals and products. Ray Weiss, *Computer Design,* 6/94, p. 32, 5 pp.

System Design

Cray's affordable vector monster. Seven 3G hard disks, 512M of RAM, and four processors with four vector FPUs each give this deskside system a theoretical performance of 15.5 GFLOPs. David Burnette, *Advanced Systems,* 7/94, p. 44, 7 pp.

Embedded designers enjoy the PC bonanza. Adapting PC-compatible technology to embedded systems cuts development time and simplifies both hardware and software. Warren Andrews, *Computer Design,* 6/94, p. 71, 6 pp.

Break the performance bottlenecks in today's multiprocessor designs. Asymetric hardware and single-threaded software are performance bottlenecks that can be eliminated with symmetric multiprocessing. Brian Bennett, AST Research; *EDN,* 7/7/94, p. 113, 5 pp.

Weigh the benefits of fuzzy-logic vs. classical control in a disk-drive spindle. The characteristics of a system's nonlinearity determine how difficult it will be to control. Brian P. Tremaine, Seagate Technology; *EDN,* 7/7/94, p. 137, 5 pp.

Coding ISRs. Interrupts can introduce an element of chaos into an otherwise straightforward design; understanding the common handling techniques improves chances for staying in control. Jack G. Ganssle, *Embedded Systems Programming,* 7/94, p. 81, 3 pp.

Keep metastability from killing your digital design. If you must synchronize asynchronous signals, use these tools to avoid the pitfalls of metastability. Debora Grosse, Unisys; *EDN,* 6/23/94, p.109, 5 pp.

Designing to the plug-and-play SCSI standard. Extending the PnP standard to SCSI offers solutions to termination and configuration problems. Jeff Epstein, Future Domain, Steve Timm, Microsoft; *Electronic Design,* 5/30/94, p.108, 5 pp.