

Literature Watch

Buses

Bridge chips help connect host and expansion buses to the PCI bus.

Many vendors are offering bridge chips to help PCI get on and off the buses of various CPUs. John Gallant, *EDN*, 2/95, p. 77, 5 pp.

Where buses cannot go. No aspect of computer design is sacred—not even the system bus, which is giving way to switches in multiprocessing systems, where performance is key. Aaron Boxer, *Concurrent Computer*; *IEEE Spectrum*, 2/95, p. 41, 5 pp.

New serial I/Os speed storage subsystems. A variety of high-speed serial interfaces gives designers many I/O options to interconnect disk subsystems. Dave Bursky, *Electronic Design*, 2/6/95, p. 81, 8 pp.

CardBus: the new PC Card interface. Born from PCI, CardBus brings PCMCIA boldly into the world of 32-bit computing. But supporting 32-bit bandwidth, 33-MHz clock speed, bus mastering, and 3.3-volt operation in a 68-pin PC Card package is no small feat. John Elmore, Rick Dayan, IBM, Shelagh Callahan, Intel; *IC Card System & Design*, 1-2/95, p. 15, 5 pp.

Development Tools

Development systems target embedded CPUs. Ada 9X standard offers increased programming control in a fast, efficient, reliable manner. Cheryl Ajluni, *Electronic Design*, 1/23/95, p. 123, 2 pp.

Signal integrity tools don't yet replace EEs' intelligence. Designing high-speed digital PC boards and MCMs is still an art. EDA tools help to get the job done, but don't think for a second that the tools can do the whole job. Dan Strassberg, *EDN*, 1/19/95, p. 61, 5 pp.

Graphics/Video

Graphics chip brings 3D to life.

Yamaha's YGV611 provides high-speed polygon rendering in 2D or 3D for \$80. Cheryl Ajluni, *Electronic Design*, 2/6/95, p. 178, 2 pp.

Memory

A thumbnail sketch of cache memory. The Pentium processor, among others, has driven the demand for synchronous SRAMs, leading to drastic price reductions and SRAM standardization. Markus Levy, *EDN*, 1/19/95, p. 30, 5 pp.

Miscellaneous

PCS: technology with fractured standards. It's high drama as seven air-interface standards square off to see which delivers the next century's personal-communication services. Lee Goldberg, *Electronic Design*, 2/6/95, p. 65, 7 pp.

Speech recognition no longer a dream but still a challenge. Speech recognition has evolved from a laboratory curiosity to a practical computer interface. Richard A. Quinnell, *EDN*, 1/19/95, p. 41, 6 pp.

Gallium arsenide joins the giants. An executive at the only major GaAs foundry reviews recent advances in building VLSI devices in that technology. Ira Deyhimy, Vitesse Semiconductor; *IEEE Spectrum*, 2/95, p. 33, 8 pp.

Interview with Doug Dunn. The CEO of Philips Semiconductors discusses the convergence of PCs and consumer products. Girish Mhatre, *OEM*, 1/95, p. 25, 5 pp.

ATM concepts, architectures, and protocols. An introduction to asynchronous transfer mode (ATM), an emerging networking protocol. Ronald J. Vetter, North Dakota State University; *Communications of the ACM*, 2/95, p. 31, 10 pp.

Peripheral Chips

SCSI host adapters fit server applications. Multichannel boards employ a proprietary RISC CPU to enhance servers and RAID storage subsystems. Richard Nass, *Electronic Design*, 1/23/95, p. 131, 2 pp.

Programmable Logic

Can FPGA design be device independent? Engineers may sacrifice FPGA speed and gate utilization when they opt for freedom of choice. Lisa Maliniak, *Electronic Design*, 1/23/95, p. 41, 7 pp.

System Design

100-MHz CPU pushes board to new heights. STD-32 board features both the PCI bus and a 100-MHz Pentium processor. Richard Nass, *Electronic Design*, 1/23/95, p. 120, 2 pp.

FPGA memory controller links embedded μ P to cache-enhanced DRAM. Ramtron's enhanced DRAM (EDRAM) can be connected to most embedded controllers using a standard FPGA such as Intel's IFX780-10. James Joseph, Ramtron International, Charles Brown, Intel; *EDN*, 1/19/95, p. 127, 6 pp.

Next-generation chip set connects Pentium to PCI. Intel's 82430FX (Triton) chip set enables the host CPU to handle today's demanding multimedia applications. Richard Nass, *Electronic Design*, 1/23/95, p. 125, 2 pp.

Serving up video. A number of architectures—SMP, MPP, PCs—are competing in the emerging market for video servers. Malcolm Stiefel, Stanley Klein, Technology Research Institute; *OEM*, 1/95, p. 39, 7 pp.

Taking it all with you. RDI's PowerLite and Tadpole's SPARCbook 3 both offer respectable performance for mobile RISC-based systems, plus features designed to ease remote connectivity. Curt Aubley, Neal Nelson & Associates, *Advanced Systems*, 2/95, p. 34, 5 pp.

Designing high-availability systems. Well-designed high-availability servers are safe and attractive alternatives to expensive fault-tolerant systems. Evan Marcus, J.P. Morgan; *Advanced Systems*, 2/95, p. 53, 5 pp.