

Literature Watch

Buses

End in sight for PCMCIA woes? Windows 95, with its Plug and Play Framework Architecture, may well herald the end to PCMCIA configuration frustrations. Paul Mueller, National Instruments; *Electronic Products*, 10/95, p. 65, 4 pp.

Development Tools

Debuggers target many CPUs, yet offer consistent user interface. Despite internal CPU differences, some debuggers deliver the same capabilities for a variety of embedded CISC and RISC processors. Russ Lindgren, *Personal Engineering*, 10/95, p. 54, 4 pp.

DSPs

DSPs caught breaking and entering. Will Strauss foresees digital signal processors working their way into the multimedia PC, while Intel and Microsoft redefine native signal processing. Will Strauss, Forward Concepts; *OEM*, 10/95, p. 52, 4 pp.

Graphics/Video

Struggling Weitek bets on PC graphics. A three-year effort redirects this chip supplier's focus from workstations to the huge PC market. Lewis H. Young, *Electronic Business Today*, 10/95, p. 81, 2 pp.

Miscellaneous

Interview: John Moussouris. The founder of startup MicroUnity Systems Engineering describes the future of multimedia design and explains why today's PC is like a cockroach. Rick Boyd-Merritt, *OEM*, 10/95, p. 43, 5 pp.

Device packaging meets increased I/O and speed demands. BGAs, MCMs, and other advanced IC packages meet new demands. Mike Donlin, *Computer Design*, 10/95, p. 32, 4 pp.

Inside Intel's systems group. A profile of the world's largest—and largely unknown—PC company to assess whether it's a technology enabler or PC makers' keenest competitor. Rick Boyd-Merritt, *OEM*, 9/95, p. 30, 8 pp.

The memory wall and the CMOS

end-point. The author proposes that physical factors will limit the speed of CMOS transistors smaller than 0.1 microns. Maurice V. Wilkes, Olivetti Research; *Computer Architecture News*, 9/95, p. 4, 3 pp.

Distributed operating systems combine multiple processors into a single machine.

Distributed operating systems fuse a collection of processors into one virtual machine independent of the system architecture. System performance, however, will rely heavily on how those processors are connected. Richard A. Quinell, *EDN*, 9/95, p. 39, 4 pp.

Memory

Flash to kill the EPROM market by

2000. A number of vendors are making EPROMs today, but demand is slowly shriveling. Jeff Child, *Computer Design*, 10/95, p. 131, 5 pp.

Peripherals

Supervisory ICs establish system

boundaries. Although they don't have the glamour of CPUs, memories, or sophisticated peripheral ICs, supervisory ICs perform unseen yet critical tasks in reset, memory protection, and watchdog functions. Bill Schweber, *EDN*, 9/95, p. 71, 6 pp.

Audio/telephony integration: Architectures and directions.

Designers have a choice between DSP-based architectures and fixed silicon. David Konetski, Crystal Semiconductor; *Electronic Products*, 10/95, p. 25, 3 pp.

ATM communication reaches the

desktop. Using ATM LAN emulation, along with 25-Mbps ATM connections, designers can implement low-cost, fully ATM networks while preserving present networking investments. Henry H. Wong, CNet Technology; *Electronic Products*, 10/95, p. 35, 4 pp.

It's show (and tell) time in race for multimedia PCs.

As multimedia becomes critical in PCs, Chromatic, TriMedia, and others race to fill the gap. Robert Ristelhueber, *Electronic Business Today*, 10/95, p. 27, 2 pp.

Processors

Maintaining data consistency when using on-chip cache. This article looks at the difficulties encountered when using the various on-chip data cache schemes supported by the 29K RISC family. Daniel Mann, AMD; *Embedded Systems Programming*, 10/95, p. 70, 8 pp.

Performance modeling using the Motorola PowerPC Timing Simulator. A simulator for the PowerPC 603 provides a look at the interaction between software and the CPU. Tariq Afzul, Motorola; *Computer Architecture News*, 9/95, p. 9, 4 pp.

System Design

UltraSparc switches to packet-

based crossbar system. New bus, chip set deliver high performance in multiprocessor systems. Ray Weiss, *Computer Design*, 10/95, p. 48, 2 pp.

SIMD machines: do they have a significant future? A panel of experts sees single-issue multiple-data (SIMD) machines surviving in massively parallel supercomputers. Behrooz Parhami, University of California, Santa Barbara; *Computer Architecture News*, 10/95, p. 19, 4 pp.

RS-232C/422/485 line isolation solves more than fault problems.

Galvanic, or electrical, isolation is a well-established technique for noise reduction and works best in computer and industrial systems in which noise can seriously affect data transfer. Ron Clark and Bob Underwood, Maxim Integrated Products; *EDN*, 9/95, p. 103, 9 pp.

Designing a PC card host interface for M68000 embedded controllers.

A PCMCIA interface allows embedded systems to use small, low-cost add-in cards. Tom Balph, Motorola; *IC Card Systems & Design*, 9-10/95, p. 26, 3 pp.

It's alive! Re-animating the PDA.

The latest round of PDAs and other handheld devices is looking to find the magic formula for success that eluded the first generation of devices. W. David Gardner, Rick Boyd-Merritt, *OEM*, 10/95, p. 72, 8 pp.