

Literature Watch

ASICs

ASIC oscillator cells reduce system timing costs. Developing stable oscillator circuits for logic systems once was a daunting analog-design task. Now, commonly available oscillator standard cells make the job relatively simple. Marvin A. Veaser, Raltron Electronics; *EDN*, 7/20/95, p. 81, 6 pp.

Buses

The case for GPIB. Far from being a stale standard, IEEE-4888 (GPIB) has continued to evolve as the most popular instrument standard in use today. Laura Golla, National Instruments; *Electronic Products*, 7/95, p. 31, 6 pp.

Which interface connects the disk drive to a system? Today it's SCSI or enhanced IDE, tomorrow it's UltraSCSI, and next year it may be SSA or fiber channel. Richard Nass, *Electronic Design*, 7/24/95, p. 57, 6 pp.

Development Tools

Emerging tools help designers debug 32-bit embedded systems. Debugging 32-bit embedded systems takes on the same complexity as debugging desktop or server systems. Luckily, specialized networking tools and methodologies are there to help. Ray Weiss, *Computer Design*, 7/95, p. 69, 12 pp.

High-speed circuits require special test techniques. Fast clock rates and steep edges introduce digital designers to analog problems. John Novellino, *Electronic Design*, 7/24/95, p. 71, 6 pp.

DSPs

DSP cores provide smaller, cheaper, faster, lower power systems. VLSI joins a multitude of large and small vendors licensing DSP cores. Barbara Tuck, *Computer Design*, 7/95, p. 50, 2 pp.

Fast buses support high-throughput DSPs. Texas Instruments' MVP and Analog Devices' SHARC deliver high performance. Ray Weiss, *Computer Design*, 7/95, p. 30, 2 pp.

Graphics/Video

RISC and graphics ICs attach to interactive TV. Silicon Graphics' Magic Carpet adds multimedia capability to the R4300. Tom Williams, *Computer Design*, 7/95, p. 36, 2 pp.

SVPC forecasts desktop and portable systems. Fast graphics, multimedia ICs, and advanced CPUs and chipsets deliver top-performing systems. Dave Bursky, *Electronic Design*, 7/24/95, p. 44, 3 pp.

Miscellaneous

A tutorial on MPEG/Audio compression. While lossy, the algorithm often can provide perceptually lossless compression, even with factors of 6:1 or more. Davis Pan, *IEEE Multimedia*, Summer '95, p. 60, 15 pp.

Next move for the PowerPC. In an open letter to the PowerPC alliance, the author details what he thinks are its failures and suggests a roadmap for success. Michael Slater, MicroDesign Resources; *OEM Magazine*, 7-8/95, p. 21, 7 pp.

Calling out for the next user interface. Voice-enabled apps are making a run at the desktop, but they've got to improve ease of use and convince a skeptical market of their real value. Chris Chinnock, *OEM Magazine*, 7-8/95, p. 56, 7 pp.

Wafer fab 2001. Key issues in deposition, microlithography, etch, diffusion, and testing must be resolved to produce 300-mm wafers at 0.18 μ . Terrence E. Thompson, *Electronic Business Buyer*, 7/95, p. S4, 12 pp.

The vital statistics. Important benchmarks of the 200 largest publicly held U.S. electronics companies include size, revenue growth, R&D spending, overseas sales, and other measures. *Electronic Business Buyer*, 7/95, p. 40, 8 pp.

Power-supply rails plummet and proliferate. The march to sub-micron lithography and faster clocks snowballs power rails and points them to 0 V at microamperes and 0 Ω . Frank Goodenough, *Electronic Design*, 7-8/95, p. 51, 4 pp.

Peripherals

Battery-management ICs stretch portable run times. Single-chip product charges advanced lithium and NiMH batteries. Frank Caruthers, *Computer Design*, 7/95, p. 109, 6 pp.

Slow flow: 25-Mbit/s ATM. Precisely what effect ATM will have on the desktop is a matter of hot debate, but, unquestionably, the "LANscape" will never be quite the same again. Loring Wirbel, *OEM Magazine*, 7-8/95, p. 48, 6 pp.

Programmable Logic

FPGAs poised to share embedded co-processing chores. FPGAs can act as reprogrammable multifunction coprocessors. Mike Donlin, *Computer Design*, 7/95, p. 56, 2 pp.

Designing for speed with high-performance PLDs. Consider the speed and time-to-market requirements of your application and learn what each PLD architecture offers. John Gallant, *EDN*, 7/20/95, p. 20, 5pp.

High-density FPGA synthesis speeds system design. Synthesis and other high-level design tools for FPGAs can speed design time and help produce higher-performance chips. Jim Lipman, *EDN*, 7/20/95, p. 31, 8 pp.

System Design

ROMing for the RAM programmer. This basic tutorial covers the hardware and software challenges you'll face when you put your system into ROM. Ed Skinner and Kent Gott, Motorola; *Embedded Systems Programming*, 7/95, p. 66, 8 pp.

Integrated clocks offer multiple frequencies, speeds. Integrated Circuit Systems (ICS) builds chips that generate the variety of clock signals needed by Pentium and PowerPC systems. Frank Caruthers, *Computer Design*, 7/95, p. 40, 3 pp.