AUDIO/VIDEO

Maximizing AGP performance. AGP is one of the key enabling technologies for high-performance 3D graphics applications running on desktop PCs. Jim Chu and Frank Hady, Intel; *RTC*, 3/98, p. 83, 6 pp.

Shrinking hardware for MPEG-2. The growing trend: integrating video decoding with other embedded functions. Mike Elphick, *Computer Design*, 5/98, p. 88, 3 pp.

BUSES

Low voltage differential signaling reports for bus duty. Based on point-to-point LVDS technology, bus devices combine speed, low power, and low noise. Jeff Child, *Electronic Design*, 5/98, p. 39, 3 pp.

DEVELOPMENT TOOLS

DSP tools get visual to help developers understand their code. As DSP-based applications move into the mainstream, tools are emerging that use graphics and visualization to help harness more of a DSP's power. Tom Williams, *Embedded Systems Development*, 4/3/98, p. 18, 5 pp.

DSP

Focus report: digital signal processors. Fierce competition across an expanding field of applications has DSP vendors fine-tuning features, consolidating functions, and otherwise pushing the price/performance envelope for 16-bit fixed-point units. Gil Bassak, *Integrated System Design*, 5/98, p. 52, 9 pp.

Digital signal processors look to displace microcontrollers. A DSP-only solution can reduce cost and development time over a DSP-microcontroller combo, if the application fits. Richard Nass, *Embedded Systems Development*, 4/3/98, p. 23, 3 pp.

Higher throughput DSP chips take on complex applications. Consumer, telecommunications, and instrumentation gain from DSP chips with reduced costs and lower power consumption. Dave Bursky, *Electronic Design*, 5/98, p. 80, 4 pp.

IC DESIGN

IC design on the World Wide Web. As university researchers tackle the challenges of circuit design over the Web on geographically distributed, heterogeneous tool sets, electronic-design companies are refining Web-based customer services, and Web-based design-management tools are surfacing. Linda Geppert, *IEEE Spectrum*, 6/98, p. 45, 6 pp.

Circuit density and smaller geometries drive CICC's digital sessions. System chips, programmable logic advances, and deep-submicron processes continue to challenge design engineers. Dave Bursky, *Electronic Design*, 5/25/98, p. 40, 4 pp.

Improved topologies, tools make mixed-signal ASICs possible. Targeted system-on-a-chip devices promise better performance, greater security. Charles H. Small, *Computer Design*, 5/98, p. 27, 4 pp.

Optimized ADCs pack resolution, speed and bandwidth on-chip. Suppliers are tweaking finer processes for better matching of sampling capacitors and switching transistors at low voltages. Ashok Bindra, *Electronic Design*, 5/13/98, p. 46, 5 pp.

MEMORY

Optimize memory subsystem for top performance. A better understanding of memory accesses allows DSP memory subsystems to be better matched to the DSP chips. Richard Jaenicke and Paul Taddonio, Sky Computers; *Electronic Design*, 5/25/98, p. 90, 4 pp.

Putting the squeeze on flash memory. Advances in architecture, processing, and packaging allow more flash storage to be crammed into less space. Mike Elphick, *Computer Design*, 5/98, p. 65, 7 pp.

MISCELLANEOUS

FED up with fat tubes. Field emission displays offer the best and brightest of two display worlds: the bright picture of bulky cathode-ray tube devices and the trim flat-panel picture of liquid-crystal displays. Babu R. Chalamala, Motorola, et al; *IEEE Spectrum*, 4/98, p. 42, 10 pp.

Pocket computers ignite OS. Not content with dominating the market for desktop computer operating systems, Microsoft is now involved in a struggle for what could be an even bigger business—the real-time system software required by handhelds, set-top devices, and car PCs. Richard Comerford, *IEEE Spectrum*, 5/98, p. 43, 6 pp.

PERIPHERAL CIRCUITS

Integrated low-voltage ADCs achieve high speed and accuracy. A family of high-speed ADCs taps Δ-Σ modulation and digital filtering to obtain true 16-bit performance at 2.7 V. Ashok Bindra, *Electronic Design*, 5/1/98, p. 67, 3 pp.

PROCESSORS

Adapting to bigger, faster embedded RISC. No longer just an industrial phenomenon, embedded RISC is riding high on the new wave of consumer products. Jim Turley, MicroDesign Resources; *Computer Design*, 5/98, p. 81, 4 pp.

Information appliances: from Web phones to smart refrigerators. Embedded information processors are spawning many unexpected applications as they use LAN and Internet protocols to communicate across almost any network. Lee Goldberg, *Electronic Design*, 3/23/98, p. 69, 8 pp.

High-integration controller tackles automotive and industrial needs. Based on PowerPC, this RISC CPU packs 448 Kbytes of flash and is a complete data-acquisition and control system. Dave Bursky, *Electronic Design*, 4/6/98, p. 40, 5 pp.

SYSTEM DESIGN

Design embedded systems for low power. Advances in IC technology make it possible to create practical low-power designs with relative ease. Brian Kurkoski, *Circuit Cellar*, 6/98, p. 26, 7 pp.