

**AUDIO/VIDEO**

**Speech recognition is headed mainstream.** As human beings, our two most powerful forms of communication involve visual and auditory mechanisms. Pen computing, as a new interface and communications paradigm, represents only half the answer. Lernout and Hauspie, *Pen-based Computing*, 12/97, p. 3, 3 pp.

**AC'97's sound strategy for multimedia PC.** By putting audio codecs' digital and analog functions in separate ICs. AC'97 gives PCs better sound quality. As a bonus, it promises to lower costs by integrating audio and modem subsystems. Maury Wright, *EDN*, 7/16/98, p. 50, 9 pp.

**Avoid over-designing audio subsystems and save power.** Specifying even simple audio subsystems in portables can be an art and a science. You can't afford to guess about how a portable will be used, how much signal headroom will be needed, or how demanding listeners will be. Ted Thomas, *Portable Design*, 7/98, p. 34, 2 pp.

**The convergence of graphics and vision.** Traditional computer graphics starts with input geometric models and produces image sequences. Traditional computer vision starts with input image sequences and produces geometric models. Lately, there has been a meeting in the middle, and the center—is to create stunning images in real time. Jed Lengyel, Microsoft; *Computer*, 7/98, p. 46, 8 pp.

**MIT's Audio Technology Enhances MPEG-4.** Audio technology developed at the MIT Media Lab will be a key part of the forthcoming MPEG-4 International Standard. Jeff Child, *Electronic Design*, 6/22/98, p. 31, 1 pp.

**DSP**

**Embedded DSP core successfully juggles critical design parameters.** Satisfying high-volume DSP applications calls for an optimum balance among performance, price, and power consumption. Keeping these factors in mind, Siemens created Carmel, a new DSP core architecture for systems on a chip. Alfred Vollmer, *Electronic Design*, 7/20/98, p. 44, 4 pp.

**Tomorrow's portables will need new DSP architectures.** Upcoming digital signal processor chips are the first step in transforming DSP into a mainstream enabling technology that lets you combine the features of a desktop PC into a single pocket-size product. Randall Fahey, ZSP; *Portable Design*, 7/98, p. 59, 2 pp.

**IC DESIGN**

**ASICs advance to next process generation.** NEC has announced its next ASIC offerings will be on a 0.18-micron low-power CMOS process called unified CMOS (UC). Rodney Myrgvaagnes, *Electronic Products*, 7/98, p. 24, 1 pp.

**Debugging first silicon.** Automated device characterization provides designers with easier and faster ways to bring ever-shrinking ASIC designs to market. Jack Frost, Integrated Measurement Systems; *Electronic Products*, 7/98, p. 37, 2 pp.

**MEMORY**

**Enhanced memory interface speeds systems with foreground and background operation.** The Virtual-Channel Memory (VCM) interface promises to enhance system performance by providing multiple access channels to memory without adding complexity to the system. Dave Bursky, *Electronic Design*, 7/20/98, p. 30, 2 pp.

**MISCELLANEOUS**

**A sea change hits the semiconductor industry.** The availability of third-party manufacturing services, huge gate counts, and increasingly available IP will benefit system companies. Jonah McLead, *Silicon Strategies*, p. 18, 6 pp.

**PERIPHERAL CHIPS**

**Speed does matter: Gigabit switch chip raises the bar.** New switch-chip family cuts the cost of a gigabit switch port below \$100. A flexible ring architecture and modular design support many applications. Lee Goldberg, *Electronic Design*, 7/20/98, p. 53, 4 pp.

**PROCESSORS**

**Smarter memory: Improving bandwidth for streamed references.** Processor speeds are increasing so much faster than memory speeds that

within a decade, processors may spend most of their time waiting for data. Most modern DRAM components support modes that make it possible to perform some access sequences more quickly than others. The authors describe how reordering streams can result in better memory performance. Sally McKee, University of Utah, et al; *Computer*, 7/98, p. 54, 10 pp.

**SYSTEM DESIGN**

**Use embedded RISC processing to boost router power.** When CISC stops dead in its tracks, special RISC instructions and versatile computational add-ons can increase router performance. Dan Vogel and Majid Bemanian, LSI Logic; *Electronic Design*, 6/22/97, p. 37, 5 pp.

**Image processing boards leverage PCI and multimedia technology.** Cost and performance benefits of PCI and MMX are pushing VME and proprietary designs into smaller niches. Jeff Child, *Electronic Design*, 7/20/98, p. 77, 8 pp.

**Tiny displays paint big pictures in next-generation portables.** A wave of new display technologies is now ready for design-in. Low-power, high-information-content virtual displays are leading the way. Patrick Walsh, *Portable Design*, 7/98, p. 25, 5 pp.

**Cooling devices.** Here's a look at some of the latest fans, blowers, heat sinks, and materials for cooling electronic equipment. *Electronic Products*, 7/98, p. 69, 9 pp.