

**AUDIO/VIDEO****PlayStation part deux.**

March 2, 1999 will go down as one of the most significant days in the history of video gaming—the day Sony Computer Entertainment announced the technical specifications of the “next-generation” PlayStation. Chris Johnston, *Electronic Gaming Monthly*, 5/99, p. 28, 4 pp.

**DVD flourishes despite format feuds.** Despite manufacturers’ bickering over rewritable DVD formats and the lack of widespread acceptance of a DVD-audio spec, DVD technology remains on a sure course to serve in applications from living rooms to super-computers. Maury Wright, *EDN*, 3/4/99, p. 89, 9 pp.

**Multimedia broadcasting over the Internet: Part II—video compression.** This article introduces a new video-compression technique, called XYZ compression, which suits ultralow bandwidth applications very well. Borko Furht, Florida Atlantic University, et al.; *IEEE Multimedia*, 1Q99, p. 85, 5 pp.

**Defining DVD.** DVD, at its simplest, is a high-capacity compact disc. But its design departs from the ubiquitous and familiar CD in ways that go beyond technical specifications. Dana Parker, *IEEE Multimedia*, 1Q99, p. 80, 5 pp.

**MPEG-4: multimedia for our time.** The latest multimedia standard excels audiovisually, husbands every bit, and invites the viewer to join the on-screen action. Rob Koenen, KPN Research; *IEEE Spectrum*, 2/99, p. 26, 7 pp.

**BUSES**

**Simultaneous bidirectional transceiver logic.** For its high-end server, VT800, Hitachi used SBTL (simultaneous bidirectional transceiver logic). This technology simplifies the implementation and reduces the cost of the crossbar switch in this symmetric-multiprocessing server. Kenichi Ishibashi et al., Hitachi; *IEEE Micro*, 1/99, p. 14, 5 pp.

**DEVELOPMENT TOOLS**

**BER: an invaluable tool in integrated-receiver-decoder testing.** Bit-error-rate testing verifies compatibility with system requirements and can provide nearly priceless diagnostic information during the critical integration testing. Tom Waschura, SyntheSys Research; *EDN*, 3/4/99, p. 127, 5 pp.

**DSP**

**DSPs with SIMD.** A single-instruction multiple-data architecture offers a way to increase efficiency and throughput in a DSP. Here’s what it’s all about. Don Morgan, Ultra Stereo Labs; *Embedded Systems Programming*, 3/99, p. 113, 5 pp.

**The EMU10K1 digital audio processor.** This PC audio solution fulfills its original design goal as a Microsoft Direct-Sound accelerator and, with its environmental simulation capabilities, prompted the development of the environmental audio extensions (EAX) to Microsoft Direct-Sound 3D. Thomas Savell, Joint Emu/Creative Technology Center; *IEEE Micro*, 3/99, p. 49, 9 pp.

**MISCELLANEOUS**

**Taking Moore’s Law into the next century.** “Cooperation” is not a word associated with the competitive world of semiconductor manufacture. Yet one organization not only gets all the major players to the table, it also helps set the course for the chip industry’s future. Scott Hamilton, *Computer*, 1/99, p. 43, 6 pp.

**The vision thing.** Brian Halla is creating a renaissance at National Semiconductor. But is the world ready for a system-on-a-chip future? Bill Roberts, *Electronic Business*, 3/99, p. 42, 5 pp.

**PROCESSORS**

**A fast digital fuzzy processor.** This digital fuzzy processor—designed and realized in 0.7-micron CMOS technology—demonstrates a processing rate from 80 to 320 ns. A parallel-pipeline architecture supports fast selection of the active fuzzy rules. Alessandro Gabrielli and Enzo Gandolfi, Univ. of Bologna; *IEEE Micro*, 1/99, p. 68, 12 pp.

**The Alpha 21264 Micro-processor.** The Alpha 21264 owes its high performance to high clock speed, many forms of out-of-order and speculative execution, and a high-bandwidth memory system. R. E. Kessler, Compaq; *IEEE Micro*, 3/99, p. 24, 13 pp.

**Optimized programmable process speeds packets, cells, and products.** Communications-stream processor allows fast development of products that handle IP, ATM, FR, and SONET at OC-48 speeds. Lee Goldberg, *Electronic Design*, 3/99, p. 33, 4 pp.

**AMD 3DNow technology: architecture and implementations.** With the addition of 21 new instructions that extend the x86 MMX architecture, microprocessor architects are raising PC performance for 3D-graphics and multimedia applications to near-workstation levels. Stuart Oberman et al., AMD; *IEEE Micro*, 3/99, p. 37, 12 pp.

**SYSTEM DESIGN**

**Sensors smarten up.** A new smart-sensor standard promises to bring order to the chaotic world of sensors and their interfaces to micro-computers and networks. Emerging 1451.2-compliant products ease system-design efforts and cut cost and size. Bill Travis, *EDN*, 3/4/99, p. 77, 7 pp.

**The reading-appliance revolution.** By integrating a wide variety of document activities, such as searching, organizing, and skimming, and by allowing fluid movement among them, reading appliances eliminate disruptive transitions between paper and digital media. Bill Schilit, FX Palo Alto Laboratory, et al.; *Computer*, 1/99, p. 65, 9 pp.

**The pressure is on.** As applications become more demanding, computer-systems research must not only redefine traditional roles but also unite diverse disciplines in a common goal: to make quantum leaps toward next-generation systems. Krishna Kavi, Univ. of Alabama, et al.; *Computer*, 1/99, p. 30, 10 pp.