MEETING NOTICE!

AUDIO ENGINEERING SOCIETY, INC.
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AUDIO ENGINEERING SOCIETY, INC.
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MARCH 1998 VOL MXCXXI

Chip makers seek help for MPEG-2 Advanced Audio Coding

With the Japanese government's endorsement last month of the newly standardized MPEG-2 Advanced Audio Coding (AAC) as the audio coding algorithm for digital TV in Japan, IC vendors are beating the bushes for information on AAC and are seeking partners who will give them access to AAC intellectual property. To date, no one has launched a chip capable of processing AAC, and there is no one-stop shop for licensing the IP.

Now an ISO standard, MPEG-2 AAC is a perceptual audio-coding algorithm that is not backward-compatible with MPEG-1 or MPEG-2 audio. It provides high-quality sound at a rate of 64 kbits/second per channel for multichannel operation. AAC applications are not limited to the satellite-based Japanese digital-TV service slated for rollout in 2000; they extend to such new services as delivery of downloadable CD-quality music over the Internet, satellite or cable. AT&T, for instance, has begun a trial service called "a2b music" over the Internet in collaboration with record companies. Some in the industry even speculate that MPEG-2 AAC may become an integral element for CD-recordable systems, or an additional DVD audio feature when DVD becomes recordable.

IC vendors are examining various digital-audio algorithms. Besides linear pulse-code modulation (PCM), MPEG-1 and 2 and Dolby Digital--the mainstays of today's DVD players--at least a half a dozen more have been proposed for DVD, home-theater and Internet-audio applications, some by such heavyweights as Bell Labs, Sony and Philips. For chip vendors seeking design wins in DVD systems 18 months from now, the worst-case scenario is a chip that's expected to support not only Dolby Digital, Linear PCM and MPEG-1 and 2, but also AAC and any (or all) of the other audio options. The challenge is to guess which audio-coding algorithms are worth supporting, at what cost and under what kind of silicon architecture. The MPEG Committee's Audio Subgroup reported just last month that MPEG-2 AAC, tested under the stringent requirements of the ITU-R test methodology, "demonstrated full broadcast-quality audio at 128 kbits/s for stereo, approximately half the bit rate of that needed by the earlier MPEG-1 Layer II codec." The Layer II audio codec is currently used in U.S. and European digital-satellite TV services.

If AAC is still a ways off, a more pressing matter for most chip vendors today is how to respond to Japanese consumer-electronics manufacturers' new demand that they integrate a DTS Digital Surround stream output feature into a DVD chip set. Developed by Digital Theater Systems Inc. (Westlake Village, Calif.), DTS Digital Surround is an encode/ decode system that delivers 5.1 channels of master-quality, 20-bit audio. It is derived from the surround-sound technologies the company developed for motion pictures and movie theaters. The DVD standard does not mandate DTS. But as Hollywood studios have released more DVD movie titles featuring DTS Digital Surround, "consumers' awareness has been going up," said Darren Neuman, director of DVD engineering for LSI Logic Corp. (Milpitas, Calif.). Although DVD players may not have a built-in DTS-decoding capability, manufacturers expect to give them at least an ability to output a DTS bit stream, with decoding in a separate audio/video receiver.

MARCH MEETING

Subject: Microsoft and Audio
Speaker: Aaron Higgin, Microsoft
Place: Philips Learning Center, Sunnyvale, CA
Time and Date: March 11, 7:30 PM (refreshments at 7:00 PM)

Microsoft operating systems have become the standard in the computer industry. Advances in native support of audio and video shape the future of the personal computer. Aaron Higgins, audio evangelist for Microsoft will discuss the state of audio support in current and future versions of Microsoft operating systems.

Aaron Higgins has a long and diverse past with music and audio. Some of his bizarre accomplishments include playing in a band that performed while riding bicycles and working on a comedy radio show. After getting his BSEE from Penn State University, Aaron worked in the audio semiconductor industry as a design engineer and technical marketing manager. Currently, he works at Microsoft as the Audio Technical Evangelist in the Windows Division, where he is focused on enhancing the state of the art of audio in Windows.

Directions

From 101 take the Fair Oaks exit south. About 1 mile from 101, Wolfe splits off to the left, bear left to follow Wolfe. The first stoplight is Stewart, turn left. The Philips Learning Center is on the right after the first parking lot.

From 280 take the Wolfe Road Exit. Follow Wolfe north across El Camino and under Central Expressway. The second light north of Central is Stewart, turn right. The Philips Learning Center is on the right after the first parking lot.

COMING EVENTS

March 16 - 20
Seybold Conference
New York, NY

March 18 - 22
ITA
Laguna Niguel, CA

April 6 - 10
NAB
Las Vegas, NV

April 20 - 23
Comdex
Chicago, IL

JOB BOARD

ELECTRONIC DESIGN ENGINEERS
Job Code #EDEAES398

Euphonix, Inc. is a manufacturer of digitally controlled mixing consoles and audio signal processing equipment, based in Palo Alto, California.

We are looking for creative, self-motivated electronic engineers to work on new product designs. Will be responsible for original hardware topology and design, simulation, prototyping, schematic entry - possibly some software. Must have a rudimentary knowledge of PCB layout techniques. Experience: (3+ years experience) Background in the design & development of complex mixed signal PCBs, using Orcad or equivalent. Design of digital control circuitry, embedded microprocessor hardware and firmware essential, experience with FPGAs, PCs, analog & audio circuits very desirable. Digital Audio & DSP familiarity also an asset. Must be good team worker. Education: BSEE or equivalent required.

Mail, email, or fax your resume, specifying the job code when applicable, to:
Euphonix
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Additional job openings are posted on the AES web page.

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