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Meeting Notice

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Los Angeles

(Guests Are Welcome)

Section

AUDIO ENGINEERING SOCIETY, INC

Los Angeles Section, cc: Sean Olive, 8500 Balboa Blvd., Northridge CA 91329

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The lines between the Personal Computer and the Computer Electronics Industries are beginning to blur. In the very recent past, we have seen traditional PC companies branch into the living room with their products (i.e. Gateway Destination) and traditional Consumer Electronics companies such as Sony enter the PC business. Developments like the emergence of DVD-ROM's with MPEG-2 movies will further blur the traditional lines of distinction between the two industries. However, if the PC is to become a premier entertaining as well as computing platform, certain areas need to be addressed; among them the quality of audio sourced by the PC.

It was with this background that the Intel Audio Team began to work on the Audio Codec '97 (AC'97) project. PC audio is advancing in many ways; audio is being placed on the PC motherboard (rather than added in the aftermarket), Win95 API's are beginning to replace Sound Blaster, full duplex audio is becoming a standard feature on PC audio codecs and the ISA bus is slowly being replaced by other busses (PCI, USB, IEEE 1394). However, the advancement of audio on the PC is a gradual process. For instance, the motherboard is a noisy place, legacy games require Sound Blaster registers, the software infrastructure for some of these advancements is incomplete, and OEM's aren't willing to sacrifice backwards compatability in a move to a new architecture. The AC'97 team recognized the need to advance the state of PC audio, as well as the issues which could prevent rapid adoption of these advancements and incorporated this knowledge into the specification.

Intel's goals with the AC'97 project were to improve the quality of audio on the PC, ensure a rich feature set to support the requirements of new, exciting applications (including Intercast (TM), MPEG-2 movies with Dolby Digital (AC-3) audio, and POTS videoconferencing), enable a scalable architecture which would support increased functionality as the silicon and pin budget increased, without forcing the PC manufacturers to incur added cost. Furthermore, by partnering with PC audio

July 1996 Meeting Notice

Audio Codec '97

with

Bill Piwonka, Garry Solomon & Dan Cox of Intel Corporation

MEETING DATE & TIME: Tues., July 30, 1996
Social - 6:00 P.M. Dinner-6:45 PM Meeting-7:40-10 PM

PLACE: Sportsmen's Lodge Restaurant, Starlite Room
12833 Ventura Blvd., Studio City (corner of Ventura Blvd. & Coldwater Canyon Ave.)

Parking is available at the rear of the complex off of Coldwater Canyon.

industry leaders such as Analog Devices, Creative Labs, National Semiconductor and Yamaha, a side benefit is to provide to the industry a standard, interoperable architecture which still allows for individual companies to produce parts which differentiate themselves from their competitors.

The presentation will review the current state of PC audio, the motivations behind the Audio Codec '97 project, the technical details of the specification and future directions for audio, including PC/CE interoperability issues.

Bill Piwonka is a Senior Product Marketing Engineer in the Desktop Products Group at Intel Corporation, and the marketing manager for the AC'97 specification. Prior to this, he was the product manager for the Intel 80486(TM) family of processors. Bill holds a BA in Quantitative Economics from Stanford University and a MBA in Marketing from Wharton.

Gary Solomon has 17 years experience in computer systems architecture and design. Gary joined Intel in 1990, initially working on PCMCIA (PC Card) architecture. He was a member of the Architecture Development Lab teams that defined and developed the PCI Bus and ISA Plug and Play Specifications. Gary was Bill Piwonka is a Senior Product Marketing Engineer in the Desktop Products Group at Intel Corporation, and the marketing manager for the AC'97 specification. Prior to this, he was the product manager for the Intel 80486(TM) family of processors. Bill holds a BA in Quantitative Economics from Stanford University and a MBA in Marketing from Wharton.

Dan Cox has 13 years experience working DSP hardware and software for real-time audio and telephony applications. He joined Intel in 1992 to work on PC based designs and subsequently designed and implemented the components supporting ring 0 audio filtering for Intel's native audio software infrastructure. Dan was co-author of Intel's Audio Codec '96 recommendations, a principal contributor to the Audio Codec '97 Component Specification, and has published several AC '97 related white papers.

June Meeting Recap: "MediaMatrix by Greg Kadorian

George Douglas, Sales Manager for Peavey Electronics demonstrated the capabilities of the MediaMatrix system.

MediaMatrix includes both hardware and software in a system that provides an advanced level of digital signal processing power. System hardware is based on ISA bus boards with four Motorola 56002 processors per board and

external Breakout Boxes or BoBs for audio and control I/O. The PC's CPU and Windows interface are used to configure and control the system, but do not pass audio.

In real time, George showed how the designer can build sound systems on a monitor screen. MediaMatrix comes with dozens of basic audio devices that themselves can be combined into higher level blocks. Components and functional blocks are literally a point and click away; no more last minute running down to the store for a new box! Powerful editing features allow changes to be made with ease. For example, multiple devices can be wired in one stroke without worrying about fan out or ground loop problems. Diagnostics are available as signal generators and indicators--all software definable with a point and click, of course.

Control Panels? No problem! George created faders, knobs and indicators in any color. Bit maps or CAD files can be imported to make virtual controls or icons for simple to incredibly complex systems. George showed us real examples including the U.S. Senate, B.C. Place, a large domed stadium in British Columbia, and large cathedrals.

Some of these systems are so complex that one would not consider implementing them with analog systems or even collections of digital boxes. One church system had over 200 delays that changed with each microphone location!

Michael Karagosian P.E., President of Cinema Group, Ltd. showed an example of MediaMatrix from the CinemAcoustics division of Peavey being used in a post production application. In this case, custom devices for Dolby 4-2-4 encoding and decoding, clash simulation and DTS encoding and decoding are available. Using MediaMatrix for audio processing allows the studio to easily change coding systems or provide different configurations for special venues. Special devices are also available to enhance customized monitoring and 5.1 to 4-2-4 format conversion.

Michael remarked that the system has proven to be extremely robust and all the devices perform as advertised with excellent specifications and no glitches. Digital signal processing and MediaMatrix put the fun back into designing sound systems.

Calendar of Upcoming Events

August 17th - AES-LA Section Barbecue & Audio Swap Meet, Johnny Carson Park, Time: 3:00 - 8:00 pm

August 18th - The Society of Composers and Lyricists will sponsor a seminar called "*Live Where Your Want, and Work In L.A., or How Can I Make Money From This Call ?*" at Fox Television, 5746 Sunset Blvd., Hollywood, from 10am-5 pm. Panelists Byron Wagner of Metawire, Joan Van Tassel PhD. of the Annenberg School at USC, Kevin Tam from DolbyFAX, and others will talk about using present and future telecommunications-including the internet-and the various ways in which it can accessed, and how we can make our presence known on it. Learn how our fellow professionals are using the technology to allow them to live where they want, and still have their careers to flourish. Cost is \$15 for S.C.A.L members and \$25 for non-members. For reservations please call 310-281-2812.

Job Openings in Audio *New!!*

Harman OEM Group

Transducer Engineer

Design new direct radiator audio transducers, using current technology, and working towards new technology which is well adapted to high volume, low cost automated assembly and test. Requirement: B.S. or M.S. degree in either Mechanical or Electrical Engineering, or Physics with 5 to 10 years of experience designing, modeling, and building audio loudspeaker transducers for high volume automated production. Experience with ISO9001 or equivalent quality systems and capability in use of Pro-E 3D CAD modeling desirable.

Senior Acoustic Systems Engineer

Assume responsibility for design of loudspeaker systems for multimedia, and hand off to production. Train and manage engineering technicians in making acoustic, electronic, and dynamic structural measurements, and reducing and presenting data. Requirements: BS or MS degree in mechanical engineering, physics, acoustics, or electronics engineering. Five to ten years experience as an engineer or engineering manager, in the field of loudspeaker design. Experience in finite element analysis, acoustic test techniques, design for assembly, DFMEA is required.

Contact: Miles Bernal, Harman OEM Group 8500 Balboa Blvd., Northridge, CA 91329 Tel (818) 895-3374

Fax: (818)-893-0029 Email: Mbernal@harman.com

For a complete description of these jobs and other audio-related jobs please contact the employer above or refer to the "Job Opportunities" section of the LA-AES Web Page at <http://www.netcom.com/~solive/laaes.html>



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