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**AUDIO engineering society, Inc.
Pacific Northwest Section**

Mailing Address: 4522 Meridian Avenue North, #201 • Seattle WA 98103



December 1994 Meeting Notice

“Digital Audio Using Delta Sigma Converter IC’s”

Ron Knapp, Crystal Semiconductor

DATE: Thursday, December 1, 1994 - 7:30 PM

PLACE: 126 Communications Bldg, University of Washington campus
(KUOW’s building) Seattle

DIRECTIONS: From Interstate 5 north or south exit NE 45th eastbound to U of W campus. Main campus entrance is NE 45th and 17th NE. Evening parking on campus is \$2.50; stop at the gatehouse upon entering to pay and get directions.

Digital Audio in high-end audiophile and professional equipment has been made possible by new high resolution, low distortion analog to digital (A/D) and digital to analog (D/A) converters made by only a few integrated circuit manufacturers. The delta sigma technique was first proven to be feasible a little over five years ago by Crystal Semiconductor, and was found to be a practical way of making not only data converters that could easily achieve over 90 dB signal to noise ratio and matching distortion specs, but at the same time reducing the cost of existing technology by nearly a factor of ten. Since then, A/D’s and D/A’s have come out that have well over 100 dB performance suitable for the recording and broadcast industries. Consumer products have benefited as well with almost every CD player in the stores employing some form of “1 bit DAC” component and multi-media sound cards bringing CD quality audio to personal computers. The presentation for this meeting will offer some of the technical reasons why delta sigma has allowed the digital audio revolution to occur with a description of what’s inside these chips and how they work. The level of integration brought by these IC’s has made it easier for audio designers to make better products, but the level of performance has put an even higher demand on good old analog expertise for the physical placement and layout of the boards in the equipment. Some of these issues will be reviewed as well.

Ron Knapp is a Field Applications Engineer for Crystal Semiconductor. He has over fifteen years experience as a design engineer specializing in high resolution IC and hybrid converters. He has worked for Analog Devices, AMD, Maxim, and Power Integrations before going to Crystal in 1990. He holds a B.S. in Systems Engineering from Boston University and an M.S.E.E. from Worcester Polytechnic Institute, both in Massachusetts.

NON-MEMBERS ARE WELCOME TO ATTEND

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