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AES Audio Engineering Society - Pacific Northwest Section

Around the Puget Sound, Seattle, Washington, U.S.A.

NOTE: anyone can attend this meeting regardless of their status as an AES member.
AES MEMBERSHIP IS NOT REQUIRED.

Lies, Damn Lies and USB DAC Technical Measurements

Or

How to Manipulate Measurements for Fun and Profit

Presented By Bob Smith - SoundSmith Labs, Technical Contributor, PNW AES Section

And

The Pacific Northwest Section of the AES

Wednesday, May 30th, 2018, 7:30pm

Shoreline Community College Music building, room 818.

Shoreline Community College Music building.

An examination of two hypothetical DAC reviews from two separate hypothetical websites professing to participate in audio equipment reviews and discussion. A detailed look at how measurement methods (and errors) caused the two reviewers to diverge in conclusions for the same two DACs compared.

You've put it off as long as you can, but it's finally clear you need a new audio interface for your computer. No problem, you'll just take a look at the reviews listed for several available USB Digital Audio Converter (DAC) devices and see which one looks like the best deal.

But wait, you narrow down to one product, and dig into the reviews. And, you find two

"independent" reviews that seem to directly contradict each other. Each one uses impressive graphs and data to "prove" one of the two will give you perfect response out to blue light, have less noise than that anechoic chamber you read about the other day, and provide utterly faithful representation of the original signal. But the two reviews disagreed about which one was the silk purse and which was the sow's ear. What's going on here

In this visual tutorial our PNW AES section Technical Contributor and long time section member, Bob Smith, will illuminate the world of DAC measurements, demonstrating how reviewers wind up in the weeds over the choices they make and the way they use and misuse measurement techniques. He will also describe the ways within the Microsoft Windows environment that choices about the drivers used and the paths that audio takes from application, through driver and USB transport to hardware output can lead reviewers and users astray.

In addition to the presentation, we will have information about section elections and take nominations for membership in the section committee as our elections will be held during our June meeting. Committee membership is an opportunity to be an integral participant in the planning and implementation of meetings and events during the year. Self-nominations are welcome. Our section is as active as it is because of the interest and participation of our volunteer committee and officers; we'd love to have you join us. Terms are typically two years with 1/2 the committee elected on even years and 1/2 on odd years.

We look forward to seeing you On Wednesday, May 30, at 7:30pm in room 818 of the Music Building at Shoreline Community College for our May meeting.

Our Presenter

Bob Smith has a BSEE from the University of Washington and has worked in the Biomedical industry for over 45 years. The last 20+ years he has spent developing acoustic research and audio engineering disciplines for Stryker / Physio Control (formerly Medtronic / Physio Control) to improve speech intelligibility for medical device voice prompting and voice recording systems in noisy environments. He is responsible for voice prompting in 30+ languages. The department now handles acoustic measurements of components such as drivers, microphone capsules and system measurements including Thiele-Small parameters, polar plots, waterfalls, frequency response, impulse response, several speech intelligibility methods, etc. When he's not playing acoustic/audio monkey for his corporate master, he runs an acoustic lab, SoundSmith Labs. From time to time, he can also be found recording local musical talents. Currently he is comparing several hardware and software acoustic / audio measurement systems to assess how much they vary and to the degree they converge on similar results. noise assessments and their effect on speech intelligibility.

Dan Mortensen

AES PNW 2017-2018 Section Chair

n.b. *The material presented at our meetings is the opinion of the presenter and not necessarily that of the Society. You are encouraged to conduct your own research and to form your own opinions before adopting the presented material as Truth.*

Our meetings are open to anyone interested in Audio. AES membership is NOT required for you to attend our meetings.

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