AES TCAA Web meeting 6/01/21

Recent TC-AA Activity:

APEI – Automotive Audio Webinar: Acoustic Vehicle Alert Systems (AVAS) and Automotive Sound Design 4/27/21.
Recording available.https://audioproducteducationinstitute.org/acoustic-vehicle-alert-systems-avas-and-automotive-sound-design/

The webinar offered the first open discussion in the audio community of Acoustic Vehicle Alert Systems (AVAS) and external Sound Design of automobiles. This session covered the legislation around silent vehicles, the regulations created both in Europe and the U.S. how they differ and how they could conflict with existing vehicle noise regulations. The creative tools for design and main features to consider in audio processing in automotive audio applications, the exterior sound design of vehicles and AVAS, and by extension interior sound enhancement, were covered.

Panelists:
Jereon Lanslots (Siemens): Regulations for the industry
Markus Bodden (Neosonic): Sound Design for AVAS & NVH
Agnieszka Oltarzewska (Siemens): Subjective evaluation of created sounds

Spring AES Show in Europe https://www.aeseurope.com/
Show was virtual May 25-28, 2021
Registration still available, and content can be watch at the above link

Interesting presentations:

1. The Sound of Things presented by Agnieszka. Not tied to Automotive but general overview of NVH SQ of things (e.g. vacuum cleaners, etc).
2. SW tool development – General thought processes on how to develop a tool for tuning.   Introduced Hope Sheffield who would be presenting this if possible. She talked about work on visualizing the acoustic response and how EQ affects this.
3. Our Roads to the Automotive Industry panel discussion being held by Shelley Uprichard with 5 female engineers in the Automotive Audio Industry. Planning to have Engineers in fields of Automotive Tuning, Upmixers, NVH in general, and DSP coding to name a few.
4. The Boring Allpass Filter? Presented by Jayant Datta.

Whitepaper on In-Vehicle Measurements – Update

The White Paper team is led by Jayant Datta. Steve Hutt and Steve Temme gave an update on progress of the paper.   It will focus on 3 areas of measurement, Frequency Response, Max SPL and Impulsive Distortion, formerly buzz, squeak, and rattle.

Currently in the mode of data gathering from various vehicle systems and analyzing. Have found that different ways of pink noise generation along with differing ways of analyzing have resulted in some differences. If one octave or 1/3 octave analysis is used differences are small. Also investigating if microphone orientation affects results (up, down, car forward, rearward, etc).

Goal is to complete paper by end of this year. This paper will be a living document and the release at the end of the year will be considered version 1. As more experience is gained it is imagined this paper will evolve over time.

A first version (light) will be prepared for presentation in technical program at the Fall 2021 AES Show (Las Vegas).

Upcoming Events
Next reviewed AES upcoming events in general which can be found here:
https://aesshow.com/

Planning for next year's Automotive Conference in Detroit. Resumption the organizing committee's work will be this month (June) for next year's event (details later in these minutes)

APEI – Automotive Audio Webinar: Remote Sound Tuning in Automobiles
June 9, 2021, 9:00 AM Pacific (12:00 PM Eastern)
https://audioproducteducationinstitute.org/remote-sound-tuning-in-automobiles/

Tools exist for remotely measuring a car audio system, visualizing the data, auralizing it and tuning it with very close accuracy to the in-vehicle experience. Firmware can be updated remotely, and the tuning process continues as it would normally, except that it is virtual. During a time when travel was restricted and access to vehicles was limited, remote tuning became a valuable, if not essential tool. Subjective evaluations have been performed remotely, using remote tunings of physical cars and virtual models.

Is there a collective will to continue to explore its use as part of the automotive audio design process? Or is the psychological break between tuning live and tuning through headphones too great? In this session, Roger Shively (JJR Acoustics, LLC) APEI's Automotive Pillar Chair will welcome presentations and a panel discussion with four automotive industry experts, discussing their experiences with demonstrations of the methods used.

Panelists will discuss topics on the following:
Shelley Uprichard, Tonmeister, independent audio engineer, frequently consulting in perceptual audio and tuning
 Marc Levasseur, independent audio engineer and consultant, with extensive experience in automotive audio sound tuning
Christof Faller (Illusonic founder), who will demonstrate auralization with head-tracking and headphone compensation equalization.

Michael Fabry, General Manager at DSP Concepts Germany, will demonstrate capturing the acoustics footprint and offline tuning.

Presentations are less detailed in technical details and more focus on hands-on, experiential, practical examples, in more of a conversational style.

This presentation will be recorded for future viewing in case you miss the live event.

General APEI website can be found here: https://audioproducteducationinstitute.org. If you have ideas for future APEI events or would like to participate in presenting please contact Roger https://www.aes.org/technical/aa/ .

APEI is planning a webinar in August/September 2021 with the topic of "Automotive Audio Supply Chain". Please keep checking the APEI events page.

AES Fall Show in US
The fall show will be a hybrid version. Exhibits in Las Vegas, NV slated for Oct 11-12, 2021. Show will be collocated with NAB Show. The technical program will be online. Visit http://aesshow.com/fall/2021 for submissions and the program detAIL

Automotive Audio Conference, June 8-10 2022
Scheduled to be held at Ford Conference Center in Dearborn, MI, USA.
http://aesshow.com/automotive2022/

Call for Papers is open!   https://aesshow.com/automotive2022-contributions/ Dewey Du is papers chair.

This will be the 5th conference and hoping it will be live but preparing for streaming as well.
- Currently have 3 Keynote presentations planned
- Communications team will keep the information flowing

New for this year is a news feed site.
https://www.aes.org/conferences/2021/automotive/newsroom.cfm It is meant to be a place for fresh news about the conference and the information from the planning committee and keynotes prior to the event, during the event, and afterward.

SAE Conference on NVH
To be held Sept 7-10, 2021 in Grand Rapids, MI   https://www.sae.org/attend/nvh
Roger will be giving a keynote address on crossover between acoustic design for audio and NVH.   More and more automotive audio systems are also handling NVH duties and Roger will expound on this.

From our Previous Meeting Discussion

Dewey Du brought up automatic VR for vehicles.   Noted that in consumer products using the internet for feedback was a mature process, but maybe not so in automotive. Mentioned VR is usually a black box item in most designs but how is the quality of the voice signal quantified.   Christian Hoene mentioned the metric of Speech Intelligibility Index as well as ways of assessing in the ITU standards.

We would still like to discuss possible future presentation with Dewey, Christian and Thomas Gmeiner looking at the system beginning with the microphone aspect all the way through to final output.

AES TC-AA LinkedIn Group
https://www.linkedin.com/groups/12424742/

This is a private group so if you are interested joining must have a LinkedIn account and contact any of the following members through LinkedIn to be added:
Rafael Kassier
Roger Shively
Patrick Dennis

TC-AA Next Meeting
The next meeting to be held in 2 months, in August. Details will be forthcoming.