AES Technical Committee on Loudspeakers and Headphones
TC-LH 145th Meeting Notes:

Chair: steve hutt
vice Chair: Juha Backman

• Trends:
  • DSP to correct for transducer non-linearities,
  • Wolfgang Green…… to present in Dublin. Integrating DSP with hardware “fixed” by DSP.
  • system dsp phase alignment eg. Meyer dsp to system & kii audio.
  • Micro speakers – now some planars
  • Headphones
  • Hi Resolution Audio
    • still some motion
  • 3D sound
    • games, etc trade off spatial accuracy vs. timbrel accuracy.

New trend:
  Graphene is being developed, product release pending

• Workshops:
  • 145 – Loudspeaker Testing & Amp requirements
  • 145 – Powered System testing, evaluation

• Ideas:
  • Reliability Testing – could we make a standard separate from AES2.
  • Short term power handling – let’s find the correct or best description i.e. duty cycle, crest factor etc.
  • Test signal. Pink Noise may not be best as compared to music. - need a signal that is more representative of syllabic dynamics.

    • Note. The Heyser Lecture by John Meyer included a brief overview of what they call “M-noise” - “a new test signal that was mathematically derived by analyzing a broad spectrum of music content. Meyer is planning to release this signal under an open source type of license.
• A workshop on test signals was proposed for the 146th Dublin Convention: Laurie Fincham, Richard Little & Wolfgang Klippel volunteered to participate.

• Andy Lewis volunteered to re-explore a workshop on hi-res audio loudspeaker requirements.

• Standards Liaison:
  • SC04-03:
    • AES2-R has begun discussion - drivers only.
    • x168 (systems) first draft is launched - in parallel discussion with AES2-R.
    • x223 - test chambers
      • ID pre-release draft is posted, Call for Comments pending
    • x241 - driver end of line test standard
      • will refer to x223 for chambers
      • tolerance data being developed.
  • SC04-08:
    • SPLmax in vehicles:
      • SC04-08 has agreed to casually explore the SPLmax definitions & how to develop a standard to measure & define SPLmax.
      • A Project Initiation Request (PIR) is required to officially kick off SC04-08.
    • Frequency Response measurements in vehicles
      • SC04-08 is exploring measurements in small rooms & has casually agreed to consider how automobiles may be accommodated in the definitions, or vice-versa.
      • A Project Initiation Request (PIR) is required to officially kick off SC04-08.
  • Modeling topic was discussed in SC04-03 with agreement that a standard on modeling is not of interest, similar to the consensus in TC-LH.
    • however a project to correlate models with measurements is being explored. Alfred Svobodnik will coordinate with NAFEMS to accommodate best practice for benchmarking.
  • in-situ acoustic measurements in automobiles.
    • A successful workshop was presented at the 145th.

• Conferences:
  • 2019 International Conference on Headphone Technology
  • 27-29 August 2019, San Francisco, CA, USA
• **New Topics:**
  
  • *iec – modular instrumentation, just started.*
  
  • *Iec tc29 is a new working group on modular instrumentation, test system with sound level type.*
  
  • *iec tc100, iec 60268-7 headphones, amendment to include free & diffuse response - 2019*
  
  • *Iec 60268 21 & 22.*
  
  • **Loudspeaker Conference:**
    
    • *Juha Bachman proposal.*
    
    • *target proposal date 147th, New York, 2019.*
    
    • *Target conference date 2021.*
    
    • *Depending on location, Juha might chair.*
    
    • *Juha will lead exploratory investigation.*
  
  • **Next Meeting:**
  
  • *146th March 2019, Dublin*