



## AES Technical Committee on Loudspeakers and Headphones

### TC-LH 144<sup>th</sup> Meeting Notes:

**Chair: steve hutt**

**vice Chair: Juha Backman**

- Trends:
  - DSP to correct for transducer non-linearities,
    - some dsp is uses for peak management.
  - *Micro speakers*
    - Mobile devices continue to press demands for micro speakers.
    - Fraunhofer have a piezo mems application may be a challenge, 10k Fs, useful to ~3kHz.
  - Headphones
    - Continue to grow with numerous variants.
    - VR is expanding the potential headphone market.
  - Hi Resolution Audio
    - The trend of Hi Res Audio has an interest and impact on loudspeakers and headphones.
    - Hans - comment - time resolution is critical.
    - John Watkinson developed a measurement system to measure loudspeaker output in bits/second
  - 3D sound
    - Atmos 3d etc.
      - some consumer products reflect sound off ceiling.
      - specification continues development.
  - Smart Speakers:
    - Huge trend.
    - Are or Can they be self calibrating?
  - New technologies:
    - Watkinson virtual points source with acoustic mirrors.

- Tim Mellow - point source electrostatic.
- Workshops:
  - Interest in a workshop on life testing and power amplifier requirements
    - Could be an interesting discussion, follows on idea presented at 143rd that chair failed to follow up on.
      - John Dawson volunteered to participate.
  - Hans van Maanen will explore doing a workshop on bass reflex.
    - Would be a follow up to Hans' workshop in Berlin.
    - time vs. freq.
      - Geoff Hill offered to do some testing to acquire data.
- Standards Liaison:
  - SC04-03:
    - AES2-R has begun discussion - drivers only.
    - x168 first draft is launched - in parallel discussion with AES2-R.
    - x223 - test chambers
      - ID draft in process, still some discussion before consensus
    - x241 - drier end of line test standard
      - will refer to x223 for chambers
      - tolerance data being developed.
- New Topics:
  - None
- Next Meeting:
  - 145th Oct/18

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