

## Meeting Notes, HRA technical committee meeting – Berlin, Germany 05.21.17

### Attending:

David Jones	All About Amps, Ltd.
Bob Schulein	ImmersAV, RBS Consultants
Hans van Maanen	Temporal Coherence
Josh Reiss	Queen Mary University of London
John Dawson	Arcam
Jamie Angus	JASA Consultancy (Salford Univ.)
Vicki Melchior	Technical Consultant

### Discussion topics:

- A. Workshop proposals for the fall 2017 NYC convention and spring 2018 Milan convention
  1. Oles Protsidym is organizing a workshop for New York on the topic of High Resolution Streaming. This is a timely subject generating much press coverage as the major labels, streaming services, and hardware companies adopt both MQA and non-MQA-based streaming. Streaming has the potential to become a primary distribution method and there are many questions about business models and consumer acceptance.
  2. Two workshops were mentioned as possibilities for the Milan conference, both of which would be very welcome:
    - a. Hans van Maanen mentioned a follow-up to the workshop presented here in Berlin (below)
    - b. John Dawson may update his amplifier tutorial from 2014
- B. It was agreed to post meeting notes on the TC website in the future as a means of disseminating detailed information on the TC's projects.
- C. Discussion of yesterday's HRA workshop on "Perception of Temporal Response and Resolution in the Time Domain". Workshop panelists had considered the relationship between improved temporal response of loudspeakers and microphones and the perception of sound quality. It was suggested that a follow-up workshop in Milan should regularly show phase responses alongside magnitude responses, and perhaps invite a specialist in time perception as a panelist, e.g. Roy Patterson from Cambridge Univ.

### Brief presentation by Bob Schulein:

Bob summarized recent tests he's done with Dan Mapes-Riordan, primarily at Axpona 2017. These are user tests attempting to define personal limits to the range of audibility of a

number of parameters loosely related to high resolution audio, including high frequencies, preferred loudness range, ITD's, separation of slightly delayed sounds in the monaural sense, and a new approach to filter testing using a Schroeder all-pass filter to control the duration and intensity of pre- and post-ringing.

Extended discussion on the presentation as well as on time resolution ideas, monaural and binaural, followed.