Minutes of 145th AES TC on Coding of Audio Signals

Minutes

The meeting was called to order at the 145th AES Convention, New York, October 19, 2017 at 11:00pm by Schuyler Quackenbush, co-chair.

The agenda, shown in the Annex 1, was approved. The chair welcomed attendees, shown in Annex 2, and thanked them for participating in the TC meeting.

The TC discussed possible workshop and tutorial ideas for future conventions. The following is a summary of those ideas:
- "3D Audio goes VR" -- workshop
  (MPEG-H 3D Audio in MPEG-I Immersive Audio)
    - 3D Audio in MPEG OMAF
    - 3D Audio in 3GPP
    - Look ahead to how 3D Audio is expected to work within MPEG-I, including open issues and potential problems
- "Can Ambisonics work for 6DoF?"
    - Need to choose panelists that will take various positions (e.g. pro and con)
    - This could be jointly sponsored with TC on Spatial Audio
    - Possible panelists include
        - Thomas Zerniki, Zylia
        - Juergen Herre, FhG-IIS/AudioLabs
        - Nils Peters, Qualcomm
        - Franz Zotter, Graz
        - Jean-Mark Jot, Magic Leap

The Chair reminded members to send an email to either TC co-chair to suggest persons that could be candidates for Fellow grade or for awards.

Finally, Juergen Herre made a few remarks about Heyser Lecture candidates:
- Consider these two "axis" of expertise:
    - Inside/outside AES
    - Technical/Artist background
- Candidate must have good presentation skills

The TC Chair raised the issue of a new edition of the "What to Listen For" CD-ROM, which is an ongoing project in this TC. Sascha Dick had kindly posted an email suggesting several topics for the CD-ROM, and the attendees expanded that list, which is shown here. The TC Chair asked for volunteers for the various tasks on the list, which are also shown below.

Topic	Name
Artifacts from Perceptual Noise Substitution (PNS)	Juergen Herre
Artifacts from High Frequency Reconstruction (Bandwidth extension) • roughness, inappropriate temporal shaping, • timbre mismatch (too tonal, too noisy)	Sascha Dick
Artifacts pertaining to Parametric Stereo & related technology, incl. surround/3D (spatial degradations, timbre artifacts)	Christof Faller
Artifacts occurring for applause signals / live recordings • (temporal shaping, timbre, spatial stage)	Sascha Dick
Off-sweet-spot artifacts	
Artifacts in rendering	Christof Faller
Transcoding (including cross-coder tandeming)	Schuyler Quackenbush
Multichannel/immersive content (binaural and multichannel wav, channel ID signals) • Public domain • Mono, stereo, 5.1, 7.1+4 Presentation • Binaural to headphones • Mono, stereo, 5.1, 7.1.+4	Schuyler Quackenbush
Creation and editing of "User Manual"	Marina Bosi

For each topic, volunteers should supply the following:
- Example distortion for several signals, (including mono and stereo)
- Several severities of distortion for each signal
- Educational text of "why"
- In what coders tools are used

As in the previous edition, audio signals have to be used that are cleared in terms of copyright.

There was no other business. The TC meeting was adjourned at 12:00 noon.

ANNEX 1 -- AGENDA

AES TC on Coding of Audio Signals
Room 1B05,
Friday, October 19, 2018, 11:00 am — 12:00 noon
145th AES Convention
New York Jacob Javits Convention Center

Agenda
1) Approval of Agenda
2) Opening Remarks of Chairman
3) Review of and proposals for activities at upcoming conventions, conferences, workshops etc.
   - Workshop on Issues in Coding for VR?
   - Other proposals?
4) Awards
5) Heyser Lecture candidates
6) Expansion of CD-ROM "Audio Codecs – What to Listen For."
   Summary from Sascha Dick:
   - Artifacts from Perceptual Noise Substitution (PNS)
   - Artifacts from High Frequency Reconstruction (Bandwidth extension)
     o roughness, inappropriate temporal shaping,
     o timbre mismatch (too tonal, too noisy)
   - Artifacts pertaining to Parametric Stereo & related technology, incl. surround/3D (spatial degradations, timbre artifacts)
   - Artifacts occurring for applause signals / live recordings
     o (temporal shaping, timbre, spatial stage)
   - Multichannel/immersive content (binaural and multichannel wav, channel ID signals).
   Identify volunteers to provide examples of each individual artifact category who could generate example items and write accompanying tutorial text.
7) Any Other Business
8) Next Meeting
9) Closing of the Meeting

ANNEX 2 – Participants

Name	Affiliation
Marina Bosi	Stanford University
Karlheinz Brandenburg	FhG-IDMT/TU Ilmenau
Sascha Dick	FhG-IIS/AudioLabs
Christof Faller	Illusonic
Juergen Herre	FhG-IIS/AudioLabs
Schuyler Quackenbush	Audio Research Labs
Bert Van Daele	Auro Technologies