Meeting minutes for TC_SP, 5 PM, Oct 7, 2007

Called to order, J. Johnston presiding.

Attendance attached.

Minutes of previous meeting approved by acclimation.

Old Business:

Report from Rob Maher (unable to attend):
The material for the CD consists of the following material:

SECTION 1: SAMPLING, RECONSTRUCTION, AND AUDIO DSP
(1.1) Sampling/Aliasing
(1.2) Quantization and Dithering
(1.3) Hard limiting (clipping) and wrap-around
(1.4) Audible effects of frequency filtering
(1.5) Audibility of interchannel phase and timing differences
(1.6) The decibel scale and frequency weightings

SECTION 2: BASIC PSYCHOACOUSTICS OF DIGITAL AUDIO
(2.0) Section Introduction
(2.1) Tone masking noise, and noise masking tone demonstrations
(2.2) FM vs. AM modulation inside a critical band
(2.3) Level differences

SECTION 3: DSP APPLIED IN PRACTICAL DIGITAL AUDIO SYSTEMS
(3.1) Envelopes and parameter update rate
(3.2) Wavetable signal synthesis
(3.3) Broadband denoising for audio signals
(3.4) Effects of implementation errors and error concealment
(3.5) Effects of cascaded sample rate conversion

The audio examples, figures, and text are complete, but still in draft form. The remaining issues are:

(1) Not every section contains the same amount of detail. Some articles are quite short, while others are very extensive. Some additional editing is needed.

(2) A few authors have normalized the sound files to be at full scale, while others (such as the dither examples) are at the original recording level, which is much below the full scale level. We need to decide what to do about this so that we don't blow out speakers--or have people complain that they can't hear the examples.

(3) Reviews still need to be accomplished. I'm inclined to get issues 1 & 2 resolved first.

(4) The basic format and layout of the CD needs to be finalized. We had been assuming a mixed mode CD, i.e., one that can play in a regular CD audio player or in a CDROM drive. Is that still what we want? I wonder if once the material is assembled it can be turned over to AES HQ for finding a good design house.

I hope this will engender some discussion, and sorry that I will not be at the TC meeting in person
 Rob Maher

Jamie Angus, Jayant Datta, and Neri Osmanovic volunteered to review all material.

We will ask authors of content about level changes.

Christoph will ask Bob Katz to review the material as well. Committee agrees to invite him to do so as an outside expert and consider if he might add something.

We want review comments back by Jan 15, so that we can alter material for presentation as the final CD before April 1. Assuming an OK with that, we will send this to publications (after email approval on the mailing list) for final review and submission to the BOG at Amsterdam.

New Business:

JJ tentatively proposing (pending management approval) a tutorial on "How to design filters (fir/iir) in Octavec or Matlab".

Stanley says that a tutorial/workshop on float vs. fixed for audio dsp is very necessary. We need relevant experts. Any volunteers? Jayant suggested that we get chip vendors to present their case. He will volunteer to find people for that workshop. Proposed title "Point/Counterpoint – Floating Point Vs. Fixed Point".

Vicki M says a tutorial on PWM is very necessary. She will try to find someone to write up a tutorial proposal.

Christoph will out if we have access to the analog conference submissions, in order to propose an analog signal processing workshop, tentatively titled "Analog design in a digital world".

We noticed that the number of signal processing submissions for this convention was very high.

We should be sure to invite more "signal processing for music" folks.

Mark Yonge brought up the definition of 'Q' for standardization. Duane Wise and Stanley L were detailed to help out.

Adjourned 5:56 by acclimation.

List of attendees:

1. Christoph M. Musialik, Algorithmix, Germany, cmm@algorithmix.com
2. James D. Johnston, Microsoft, USA, jamesdj@windows.microsoft.com
3. Jamie Angus, University of Salford, GB, j.a.s.angus@salford.ac.uk
4. Brent Karley, Freescale, USA, brent.karley@freescale.com
5. Jayant Datta, THX,USA, jdatta@thx.com
6. Nermin Osmanovic, Microsoft, USA, ossi@ieee.org
7. Duane Wise,Wholegrain Digital Systems, USA, dwise@wholegrain-ds.com
8. Vicki Melchior, Consultant, USA, vmelchior@earthlink.net
9. Stanley Lipshitz, University of Waterloo, Canada, spl@uwaterloo.ca
10. Mark Yonge, AES Standard Manager, USA, MUY@aes.org