AES SWISS SECTION NEWSLETTER

90th Issue

INFORMATION ON NEXT MEETING

Line Array Loudspeakers - Application in Churches

Thursday, 16th of October 2003, 17h00 – 20h00 at the St-Petrus Church,
Brunnadernstrasse 40, 3006 Bern

SPEAKERS: Walter Köller, Stryjenski & Monti, Geneva CH
David Norman, David Norman Audio Consulting, Ipsach CH
Evert Start, Duran Audio NL

ORGANIZERS: Joël Godel, Acustica, Murten CH
David Norman, David Norman Audio Consulting, Ipsach CH

LANGUAGE: English, French

The use of line arrays in churches is a very old tradition. For several years a newer form of line array has become available with DSP (digital signal processing). These have been successfully used in very reverberant spaces such as churches to achieve good speech intelligibility despite the effect of the reverberation.

Schedule

- Refreshments - aperitif: **17h00**
- Welcome address: Joel Godel, organizational points: David Norman
- Presentation: Walter Köller: Theory of the line array
- Presentation: David Norman: Project in the church, planning and measurements
- Demonstration: In the church with David Norman and Evert Start
- Presentation: Evert Stuart, Duran audio, Intellivox line array + discussions. End: **20h00**
- Optional meal in the local restaurant Burgerziel, Thunstrasse 115, 30006 Bern. All participants have to chose a menu from a list of about 3 -4 menus so that the meal can be prepared quicker. More information during the meeting.

Biographical Notes

Walter Köller:

Walter Köller was born in 1966. After receiving his Masters degree in Electrical engineering at the EPFL, he moved toward acoustics and the electroacoustics while joining the team of professor Rossi where he notably collaborated on the project of the Stravinski auditorium in Montreux. Graduate acoustician since 1999, he is currently project leader in the acoustics-engineering office Stryjenski & Monti where projects have included the opera of Strasbourg, the Victoria Hall in Geneva and the convention centre of Orléans. Walter is a teacher both at the engineering school of the canton of Vaud, and the CFMS in Lausanne where he is co-responsible for the sound technician course, and he still finds the time to be member of the AES committee and the SSA committee.

David Norman:

David Norman was born in 1947 in Ipswich, England and Studied Physics at Royal College of Science London gaining BSc, and ARCS titles. He started working in professional audio at the end of the `60s in a small London company J.Richardson Electronics Ltd. He was then invited to work in Switzerland and designed the complete electronics for a recording studio in Biel/Bienne Switzerland. After this he worked for a while designing electronics for hi-fi applications at Lenco Switzerland and then joined Electro-Voice SA Switzerland (later Mark IV Audio) where, for 16 years, he was the European Technical Manager. During this time he was responsible for the design of many sound systems in stadiums such as Hallenstadion Zurich, Ice Stadium Allmend Bern, Sport Hall St. Jakob Basle and Hardturm Football Stadium, Zurich, as well as other applications such as the Film Festival, Locarno and was responsible for the sound for 10 years at the Jazz Festival, Montreux. Since 1996 he has been running his own consulting company working on many sound systems in and around Switzerland. He is a member of the: Audio Engineering Society and the Swiss Acoustical Society. He has been chosen to represent Switzerland on the IEC committee dealing with inductive loop systems.

E.W. (Evert) Start, Ph.D:

Date of birth: April 17, 1968

Education:

- 1986-1992: Applied Physics, University of Technology, Delft, The Netherlands
    - Master thesis in the field of acoustic perception
- 1992-1997: Ph-D research about ‘Direct Sound Enhancement by Wave Field Synthesis’

Professional Experience:

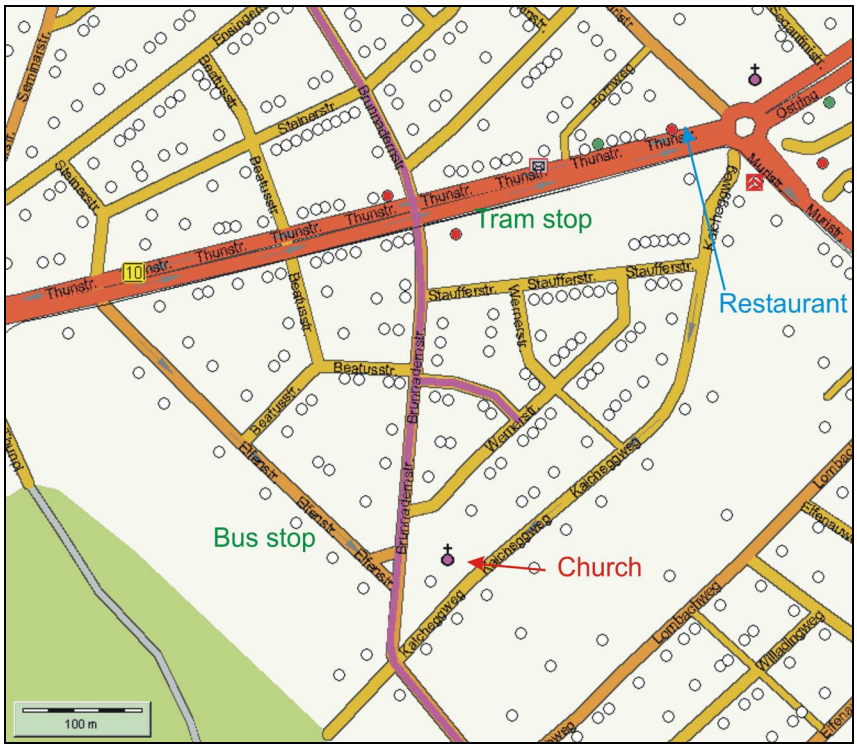
- 1997: R&D engineer at research group ‘Seismics and Acoustics’ at the University of Technology, Delft, The Netherlands
- 1997-2000: Electro-acoustic consultant at ‘Lichtveld Buis & Partners’, Utrecht, The Netherlands
- 2000-now: R&D engineer at Duran Audio BV, Zaltbommel, The Netherlands

Other activities:

1999-2003: Board member of the Acoustic Engineering Society (AES), Dutch section

Practical information:

- Meeting equipment installed and offered by Kilchenmann AG Telematik, Kehrsatz-Bern
- Transport: **Tram 3 & 5** from main station with stop at Brummadernstrasse, then short walk to the church (see map). **Bus line 19** with stop in front of the church. Parking very difficult in this area (embassy quarter).



REPORT ON PREVIOUS MEETING

Multichannel Sound Recording Practice

So little boy stereo said: "When I grow up I want to be Multichannel"

Thursday, 25th of September 2003, 17:00 at the Room B114 (building B, 1st floor) of the School of Engineering, rue de la Prairie 4, 1202 Geneva

SPEAKER: Mike Williams, "Sounds of Scotland", Le Perreux sur Marne, 94170, France. soundsscot@aol.com

ORGANIZER: Véronique Adam

LANGUAGE: French

Around 25 participants gathered together in an auditorium of the School of Engineering in Geneva to follow the Mike Williams' presentation entitled "Multichannel Sound Recording Practice".

After an aperitif in welcome, Mike Williams started its presentation with a little historic of multichannel sound reproduction. He reminded his previous works on the subject and explained that the development of Microphone Array Systems for recording and reproduction, applied to both stereo and multichannel sound, is directly dependent on the psychoacoustics of the listening environment and the physics of the microphone array.
He showed how these same principles, that have been shown to apply to the analysis of stereophonic microphone arrays, can also be used in the design of a multichannel microphone array, and thereby achieve realistic natural reproduction of the sound field. Using this process of Multichannel Microphone Array Design (MMAD), an almost infinite number of microphone configurations can be chosen to suit the needs of a particular sound recording situation.
Considering the difficulty for a sound recording engineer of choosing the suitable microphone array configuration, Mike Williams had the idea of analysing different selection criteria, such as front triplet segment coverage, lateral segment coverage, segment reproduction linearity, use of position offset to obtain critical linking, back pair segment coverage, quality of localisation in the different segment, microphone array response above and below the reference plane,.... The result of this work leaded on 5000 configuration possibilities corresponding to real particular situations.
The arrays were originally specified in the form of tables of microphone coordinates and orientations. As this form of presentation proved to be rather too cumbersome, a CD-ROM containing a full set of plan diagrams of arrays and some other useful documents was produced for subsequent conferences on the subject. The prerelease 0.2 of this MMAD CD-ROM was distributed to each participant.

At the end of the presentation, the participants were able to see (and purchase) the full range of AES publications and a large selection of other high level English language books on audio engineering and recording practice.

A dozen people gathered for the optional dinner after the meeting.