AES SWISS SECTION NEWSLETTER

80th Issue

INFORMATION ON NEXT MEETING

DIGITAL AUDIO STUDIO at TSR

Thursday 7th of March 2002, 17h15 at the Télévision Suisse Romande, 20 quai E. Ansermet, Geneva

SPEAKERS: Thomas Bulliard, TSR
Thierry Bonvin, TSR

ORGANIZER: Patrick Boehm, TSR

LANGUAGE: French

Since the creation of the "Sports Centre" studio, the "Télévision Suisse Romande" has adopted a standard concerning the handling of audio signals in its studios. This same standard has been adopted for studio 4 and News ("Actrualité"). It will also be adopted in studios 2 and 3 during their replacement and updating. The type of equipment, including all connected outboard gear, is identical.

At the next Swiss Section meeting to be held at the French-speaking National Television in Geneva on the the 7th of March 2002, Thomas Bulliard, responsible for the Studio 4 audio project will describe the concept, block diagram and audio flow.

Thierry Bonvin, who is responsible for the daily running of the studio will explain the functionality of the studio, the different ways of producing programmes in the various available formats such as surround, 5.1.

A guided tour of the equipment, TV set and control room is planned and after the meeting a meal will be organised for those who wish to stay on.

Biographical Notes

After obtaining an HES/ETS diploma in 1997 in Geneva, **Thomas Bulliard** worked for 2 years at TSR in video operations in different centres such as the switching centre, outside broadcasting van and production studios. In 2001, he was put in charge of the technical design of the audio part of studio 4.

After obtaining a diploma in Music Production and Engineering from the Berklee College of Music, **Thierry Bonvin** was employed by TSR in 1992 as an "Opérateur Son". Between 1993-98 and in parallel to this activity, he worked as a sound engineer in the Axis recording studio in Geneva.
In 1998 he was employed at TSR as a sound engineer and put in charge of all sound engineers. This responsibility brought him to participate in several technical projects (Actu, Studio 4), from the development to the choice of equipment. In 2001 he was made head of the audio post-production sector at TSR.

REPORT ON PREVIOUS MEETING

HIGH QUALITY STUDIO MONITORING SPEAKERS

Thursday 17th of January 2002, at Strauss Electroakoustik GmbH, Güterstr. 8, 3008 Bern

SPEAKERS: Dr. Gottfried Behler, RWTH Aachen, Klein&Hummel, Ostfildern
Mr. Jürgen Strauss, Strauss Elektroakustik GmbH, Bern
REPORTER: Markus Erne, Scopein Research AG

More than 35 participants gathered for first meeting of the Swiss AES Section in 2002. Dr. Behler started with a short historical overview of Klein&Hummel, a company founded in 1945. Dr. Behler then focused on the important parameters that determine the quality of a loudspeaker design. Besides the selection of the driver and on-axis frequency response, the 3-D directivity lobes determine the perceived quality of reproduction. The O500C, a digital loudspeaker system with integrated amplifier has been designed to compensate the amplitude and phase responses of the individual loudspeakers using FIR filters ("Finite Impulse Response").

FIR-Filters offer the advantage of being stable and may even offer linear-phase behaviour. In order to keep the computational costs at a reasonable level, down-sampling techniques are used in order to compensate the frequency response of the loudspeaker system. The compensated frequency response therefore looks extremely flat and each driver is compensated individually. Dr. Behler pointed out that one of the very nice features of this new DSP-based system is the possibility to not only compensate the frequency and phase responses of the driver but of the listening environment as well.

Once the transfer function or the impulse response of the room are known, the transfer function at the listening position can be compensated as well and a "training-mode", using IIR-filters allow to compare between "compensated" and "uncompensated" room characteristics. Once the filter coefficients are determined, the FIR-filter can be loaded with the appropriate set of coefficients and the overall reproduction system is completely equalized.

One of the ultimate goals of this meeting was to allow the audience to listen to these new speakers and Dr. Behler and his crew prepared an impressive demo, using DVD and SACD and CD-material. The audience was highly impressed by the clean sound that the digital loudspeaker system was able to reproduce.

Markus Erne (left) with the speakers, Dr. Behler (centre) and Jürgen Strauss (right) at Swiss Section Meeting on 17th of January 2002

REPORT ON PREVIOUS MEETING (continued)

"HIGH QUALITY STUDIO MONITORING SPEAKERS

An interesting discussion with many questions from the audience was launched before the serving of refreshments during which lively discussions continued.

The second presentation by Jürgen Strauss, an experienced developer of high quality loudspeaker systems, focused on a more conventional but no less sophisticated design of a mastering studio monitor. This mid-field studio monitor of Mr. Strauss has been selected, among many well known loudspeaker manufacturers, as being the best sounding one, by a large group of recording engineers for the 12 mastering studios at Sony Music recording Studios in Tokyo.

Jürgen informed the audience that his loudspeaker design uses a special tuning of the low-end response, a super-tweeter which allows a flat response up to 80 kHz and a sophisticated passive frequency dividing network. The super tweeter takes advantage of Berillium ribbon technology whereas a TAD-chassis is used for the 38 cm Bass-loudspeaker. Overall, Mr. Strauss has optimized many parameters such as mechanical stability, directivity (design of the horn-loudspeaker) and tuning of the overall system in order to bring the overall perceived quality to perfection.

The audience had a second chance to judge the sonic quality of this loudspeaker system and many comments and congratulations followed, stating that this loudspeaker is among the best sounding. Needless to say that Mr. Strauss used very critical material (SACD, CD and DVD-Audio) in order to demonstrate the quality of his loudspeaker design. It certainly was impressive to the audience to learn that a small company in Bern had been chosen as the ultimate partner for having 12 mastering studios equipped with mid-field monitors at Sony recording studios at Tokyo.

A lively discussion followed before many AES-members gathered for dinner where both presenters were welcome partners for discussions on loudspeaker design.

As a conclusion, both loudspeakers performed extremely well under well controlled listening conditions and last but not least this meeting was a chance for each audio engineer to listen not only to the presentation but also to spend time listening to high quality music.

Message from Swiss Section Chairman

First of all I do hope that this first half of the yearly programme will meet with your approval and that everyone can find something to his or her taste! The second half of the annual programme will be announced in the August Newsletter.

In our effort to provide our Members with readily accessible information concerning our activities, we will now be sending out electronic versions of the AES Swiss Section Newsletter (as well as the paper version through the usual mailing) to all people who have registered on the e-mail list. If you would like to register you can do so at our AES Swiss Section website at www.swissaes.org (under “mailing list”).

Also, the question has been raised as to whether the Meetings are open to Non-Members. Our policy has always been one of openness in an effort to attract new Members. Non-Members are therefore welcome on a "one-off" exceptional basis. For people who wish to return on a more regular basis, we would however ask that you support the Swiss Section by becoming a fully paid-up Member of the AES. The annual cost is $75 or SFr 110 ($40 or SFr 60 for students) for which you will also receive the AES Journal. You will also more than get your money back if you are planning to go to the AES Convention in Munich in May and there may also be other subsidies/reductions for Members at other Swiss events.

The enrolment forms can now be downloaded at the Swiss Section Website www.swissaes.org in an effort to make enrolment as easy and hassle-free as possible.

Looking forward to seeing you all again soon.

Patrick Roe
AES Swiss Section Chairman

AES SWISS SECTION HALF-YEARLY PROGRAMME

for 2002

Variable Acoustics using Electroacoustic Systems

Joint Meeting with the AES French Section
Venue: Grenoble
Date: Still to be confirmed (April 19 or 26, 2002)

Hearing Damage Issues

Joint Meeting with Swiss Acoustics Society
Speakers: Stefan Launer, Phonak and Beat Hohmann
Venue: Phonak, Stäfa
Date: May 23, 2002

Audio over IEEE 1394 / Firewire and General Meeting

Speakers: Thomas Thaler, Steve Harris and Bob Moses, Bridge Co
Keith Warburton, Glyph Technologies
Venue: Rathaus zum Aeusseren Stand, Bern
Date: June 18, 2002

Note
The programme for the Autumn will be announced in the August Newsletter. We can however announce that the AES Swiss Section will have a Stand at the "Light and Sound Messe" between October 12-14, 2002