AES SWISS SECTION NEWSLETTER

92nd Issue

The Swiss AES Section Committee wishes you a merry Christmas and a happy new year 2004!

INFORMATION ON NEXT MEETING

New Broadcast Facilities at Radio 24 in Zürich

Thursday, 22nd of January 2004, 17h30 – 19h15 at Radio 24,
Limmatstrasse 183, Zürich

SPEAKERS: Walter Reinhard (Auris GmbH / Studer) et al.

ORGANIZER: Attila Karamustafaoglu

LANGUAGE: English or German

Although the first radio station was on air in 1917, the development in the radio broadcast industry has not come to an end yet.
On the occasion of their 24th anniversary, Zürich's famous Radio 24 has rebuilt their studios and has now one of the most modern radio broadcast facilities in the country. On the 29th of November 2003, the studios were already open for the public which about 1000 people took advantage of. In this meeting of the 22nd of January, the visitors will have the chance to see the studios in a smaller group and get technical background information.
With the new equipment installed, the broadcast station has a state of the art system offering large flexibility, more reliability and better concepts for emergency cases.
Independent locations for various processes within the studio are saving a lot of time and cost today, which frees funds for the program content.
The project leader for the audio installation, Walter Reinhard, will speak to us about the technical aspects and the new features implemented in this project. Eventually, some further additions will be made by people from the Studer Product management.

As usual, an optional dinner will be held at a restaurant nearby.

REPORT ON PREVIOUS MEETING

Enhanced Console Operation with Studer Vistonics

Thursday, 27th of November 2003, 17h30 – 20h00 at Studer Professional Audio AG, Althardstrasse 30, 8105 Regensdorf

SPEAKER: Stefan Ledergerber

REPORTER: Attila Karamustafaoglu

LANGUAGE: English

The meeting in Regensdorf was visited by about 25 participants.

After some introductory welcome words by the organizer, Stefan started with his presentation about the Vistonics console operation philosophy. Key feature are TFT screens which are built into the mixing console and are incorporating physical rotary encoders and push buttons. Providing more than just a marketing presentation, Stefan showed a survey over the history of console operation concepts, and it was shown that first all consoles had the so called one-knob-per-function philosophy. This meant that each EQ gain or similar parameter was accessible directly, which is quite obvious for analogue consoles. Then the first digital desks appeared on the market, which were characteristic for their long learning curve, because the operators had to use paging or layering mechanisms to access the wide number of maybe several hundred parameters for each channel.
There the link was shown to the actual development. Being the product manager for this product family, Stefan Ledergerber has undertaken huge studies about the operation of consoles and managed to implement the out comings utilizing the mentioned technology and the help of a professional industry design company. Starting from scratch in some aspects, the operation philosophy was completely redefined and brought to the level of an analogue console in terms of ease-of-use. Now, things like a thought-through colour scheme allow the user to recognize functions faster than before. Further, a concept called “ganging” provides a temporary mechanism to group some channels to a “gang” where each operation to one channel is applied automatically to all channels. This even includes bus assigns or other setup operations which could take a long time before. Another feature to be mentioned is temporary activation of buttons, as known from talkback systems which reduces the number of necessary button pushes.

After the presentation, the visitors were split into two groups and had the possibility to explore the presented features on two Vista consoles which have been set up for demonstration.
As a third part, Martin Reich from Tonstudio Z was invited to speak as an owner of such a console. He explained their experiences with the console. Since they were the first customer of this product family, they had a close connection to the R&D team of Studer and were able to influence the design in some details. He pointed out that the operation speed and learning curve, as well as a good looking design are important factors for professionals.

Eight participants extended the discussion after the meeting with an optional dinner at the Trend Hotel nearby.

REPORT ON THE LAST BUT ONE 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

REPORTER: Joël Godel

LANGUAGES: French and English

35 interested people gathered on the 16th of October at the St-Petrus church in Bern.
After a short introduction by Joël Godel, Walter Köller started his presentation about the theoretical basis of wave addition. Then, Walter explained the basic theory of a line source, and the aspect of filtering a line source. With an illustrated example, he showed us the array behaviour if the spatial sampling is bigger or lower than the half of the wave length. After this, Walter introduced the digital directivity control (DDC), using DSP, to control level, delay and filtering. DDC offers following possibilities: slant of the lobe (delay control), using windows (rectangular, triangular, Hanning), which introduce changes in the lobes (more central lobe, less secondary lobes). Walter explained us the near and far field component of line the array (respectively -3 and -6 dB), and concluded: Through the Fourier transformation, a DSP controlled line source becomes a digital directivity controlled source.
David Norman, who did the study and measurements for the acoustics and electroacoustics in St-Petrus church, gave the audience a presentation about the new installation with 2 Intellivox 2C loudspeakers from Duran Audio (NL). The goal for this church is to let a good acoustic for the organ, music and singing, while providing good speech intelligibility for the whole public places, which is a very important aspect today.
After this, everybody went into the church and changed places, all the time while listening to David speaking about the installation, once with the optimal parameters on both loudspeakers, once with only 1 loudspeaker on, and once with both loudspeakers but with very bad parameters (target point on the ceiling). Through this demonstration the audience could listen to big changes of speech intelligibility, and a test about "how much STI do you hear?" closed Dave's part of the meeting.
Evert Start begun then his presentation about digitally controlled loudspeakers array, and gave an explicit explanation of Axys directivity concepts: DDC = digital directivity control, and newly DDS = digital directivity synthesis. His approach to obtain a constant directivity is to work with a long array for low frequencies, a medium length array for middle frequencies, and a short array for high frequencies, and all this is done with the DSP filtering. The control parameters have effect on the opening angle, the aiming angle and the focus distance. His conclusions of DDC are: constant SPL versus the distance, performance optimized with parameters (mounting height + 3 angles), implementation (vertical), 2 lobes possible. For DDS, an inverse approach is used based on general array model (like plane, line, banana, etc…), the goal is to obtain the full SPL for the audience, and quasi 0 dB against the walls and ceiling. This is better for example for floor and balcony. At the end of his presentation, Evert introduced measurement of large arrays by using near field acoustic holography.
David Norman ended the meeting with a question: "There are several columns type of loudspeakers on the market. Would it be interesting to do a comparison between the different types in an AES meeting?"
After this, about 17 people went together for dinner in a restaurant near the church.