AES SWISS SECTION NEWSLETTER

107th. Issue

INFORMATION ON NEXT MEETING

The Genesis of Modern Computing, Digital Audio and Compression

Studer Professional Audio GmbH, Althardstrasse 30, 8105 Regensdorf

Thursday, 21st of June 2007, 1745h-1945h, Doors open 1730h

SPEAKERS: Jon Paul, Crypto-Museum California/USA

ORGANISER: Attila Karamustafaoglu

LANGUAGE: English

The German Enigma machine is the locus of cryptology, WWII history, and the architecture of modern computers. The solution of Enigma keys was pivotal in the Allied Victory and altered the course of WWII, shortening it by a year.

The quest to break Enigma and teletype ciphers at Bletchley Park led towards today's digital computer and digital audio technology.

Digital audio compression, analysis and synthesis started with Dudley's VOCODER and an obscure top secret WWII speech scrambler from Bell Telephone Laboratories, SIGSALY.

We trace the history, operation and cracking of Enigma and Teletype ciphers, and highlight the connections to modern day Digital Audio and Computing. We illustrate the breaking of Axis cipher machines at Bletchley Park and discuss innovations in computing during and after WWII. We show the development, operations and use of the SIGSALY speech scrambler system. The presentation includes timelines linking these fundamental developments to modern day computing, Digital Audio and compression.

Background: This talk is the result of years of original research, which uncovered many new and surprising historical links. It is a multimedia presentation based on a combination of new material added to several previous presentations, all condensed into a 1 hour time limit.

We clearly connect very early computers, ciphers and scramblers to the modern digital technology we use everyday.

Practical information: The presentation includes music from the 1930s and 1940s, VOCODER and SIGSALY speech samples and vintage Poster art.

A demonstration of Enigma is illustrated with a short MPEG movie.

A few pages of notes and references with some interesting graphics as an audience handout will be provided.

Organisation:

1730h Doors open
1745h Presentation from Jon Paul
Refreshment break in the middle of the presentation.
1945h approx. end of the meeting

2000h Optional dinner at the Trend Hotel nearby
Please register as usual at:
www.swissaes.org /programme /sign up

RFI in Audio Systems Pin 1 Problems, Poor Shielding, and Poor Input/Output Filtering

Thursday 10th May 2007 at Studer Professional Audio GmbH

SPEAKER: Jim Brown Audio Systems Group, Inc

REPORTER: David Norman

More than 20 visitors made their way on this evening to this event. Jim Brown's gave a very professional presentation of problems with the interconnection of audio units. He explained how RF interference enters the audio equipment and how this is detected inside the unit. He showed many of the problems with interconnections and how improved equipment design and improved wiring practices can reduce or eliminate such problems. His measurements of RF problems on commercial electronic units and microphones showed problems that manufactures need to take seriously.

Certainly one of the problems is the use of mobile telephones; previously it was not normal to place what is effectively a 2 Watt radio transmitter beside or on top of equipment. This is something equipment manufacturers need to consider in their design.

He showed that certain cables – foil screened with a drain wire – are one of the causes of problems. His experiments with rejecting interference with ferrites were also shown and how the correct use of ferrites can reduce existing problems.

All in all a presentation which showed some problems which do exist and how manufacturers could solve these problems. And at the same a solution orientated presentation which showed how such problems in the field could be eliminated or reduced.

Additional material to this event can be downloaded from the Swiss AES Website: www.swissaes.org (programme / download)