

AES Audio Engineering Society - Pacific Northwest Section

Around the Puget Sound, Seattle, Washington, U.S.A.

June Meeting Notice

Virtual Synths

a workshop with

**Daniel Casado, James Husted, Chris Douglass, Lance Hayes,
Reek Havok, Juan Pampin, Pete Moss, Joshua Parmenter**

Sponsored by the AES PNW Section

June 4, 2005, 10:00am

121 Raitt Hall, University of Washington

Note: This will be an all-day workshop.

[Directions](#) to the meeting location.

Synthesizer technology has come full circle. What started out as a room full of computer equipment became portable hardware - that then transformed again into portable computers.

The origins of modern electronic music synthesis can be traced back to the 1950s at the Columbia-Princeton Electronic Music Center. The Center's RCA Mark II Sound Synthesizer cost \$500,000, and took up ten 19" racks. It used punched paper rolls to program the synthesizer/sequencer in binary code. A number of significant pieces in the electronic music repertoire were realized on this Synthesizer, but it was not portable and access was limited to a few composers in the academic community.

It wasn't until the 1970s that synthesizers became practical as performance instruments. Early pioneers such as Moog, Buchla, Serge, and ARP developed hardware based instruments that were small enough to be considered portable.

By the early 1980s microprocessors were being used in hybrid digitally controlled analog synthesizers. As microprocessors got more powerful, these hybrid instruments were largely replaced by fully digital synthesizers.

Now all of this can be done on a laptop. With the popularity of computer-based recording and mixing it was only a matter of time before someone applied the concept to a synthesizer. *Voila!* Enter today's virtual synthesizer. In this workshop we will present where we are today and how we got there, with a special emphasis on workflow issues.

Workshop Outline

Introduction / Start

Section 1. 10:15am. Modular Synths. James Husted

Overview of basic analog synthesis concepts with demonstration of analog modular synthesizer. Include coverage of voltage control and modulation. Demonstrate a V.C. stepper sequencer.

Section 2. 11:00am MIDI. Daniel Casado

Will cover MIDI protocol and hardware, with emphasis on work related issues.

Section 3. 11:15am Controllers. Chris Douglass

Will cover Hardware controllers for virtual synthesizers.

Lunch. 12:00am

This is a no-host lunch. We will send out for take-out food from a variety of eateries in the U-District. You are also free to bring your own lunch or to venture out on your own.

Section 4. 1:00pm Virtual Synths. Lance Hayes

Overview of Virtual Synthesizers. Will cover several mainstream software packages.

Section 5. 2:00pm. Reactor. Daniel Casado

Overview of Reactor

Section 6. 2:15pm. Virtual Drums. Reek Havok

Will cover Virtual drum synths and controllers. Will also discuss sample based vs. analog emulations.

Section 7. 3:00pm. DXARTS. Juan Pampin, Pete Moss, and Joshua Parmenter

The DXARTS Group from the University of Washington will make several presentations. They will cover algorithmic composition with software packages like SuperCollider, and C Sound. They will also demonstrate some of the projects they have been working on.

End of Presentations. 5:00pm

Presenters

Daniel Casado

Daniel Casado is the N. W. representative for a number of leading audio manufacturers. With over 20 years in the professional audio industry, his experience includes front of house for national acts, mixing live performances for radio & television broadcast, sound system design & installation, manufacturing, R & D, and teaching electronics and audio theory. He also has extensive studio experience.

Chris Douglass

Chris comes to us care of Edirol North America. He studied music at Western Washington University with an emphasis in Vocal Performace, Digital Composition, and Audio Engineering. He then worked briefly as an audio engineer before deciding that he doesn't like being poor and immediately found a job with Edirol. Chris dreams of one day turning off the computer and taking a nap. Until then, he roams North America helping people decrypt the secrets of homestudio technology like a modern day alchemist or David Carradine--righting the wrongs of outdated or nonfunctional homestudios with only the power of his fist. (well at least his fingers.)

Reek Havok

Rock musician Robert Palmer once described Reek Havok as "...a Sound Scientist from the future". Reek Havok has been involved in many aspects of music technology for over 20 years. Starting in 1983, Reek was on the forefront of the electronic drum revolution as a programmer and clinician for Simmons, E-Mu Systems and Dynacord electronics. An accomplished musician and technologist Reek has worked as a Sound Designer, Programmer, Drummer, Clinician and Consultant for major recording artists including the Pointer Sisters, ELP, REM, YES, Robert Palmer, Motley Crue. Reek moved to the Pacific Northwest and worked as a sound designer and composer for Microsoft's Digital Backlot and as Interactive Technology Specialist for EMP's award winning "Sound Lab" gallery. Today Reek works as the Interactive design engineer for Vulcan and continues his work with Soft synths, sound design and music composition through a variety of conventional and unconventional systems.

Lance Hayes (AKA DJ Drunken Master) Composer / Producer / Sound Designer

Lance has been professionally involved in music, sound design and audio for over 20 years. He has produced work that can be heard in the films, television / radio broadcasts, DVDs, video games, and software of such clients as Warner Brothers, Best Buy, The Discovery Channel, Nordstrom, National

Geographic and Propellerhead Software. Most recently his work was used by Microsoft at E3 '05 as part of the in the Xbox 360 launch promotion. At present he is developing the sound design and music for "Gem Shop" to be released by HipSoft later this year. See www.djdm.com for more.

James Husted

James Husted touched his first Synthesizer at Western Washington State Collage in the start of the 70's when he found that the Music Department's electronic music program offered a few of the only classes that non-music majors could take. That was all it took to get him hooked. Soon he was running the Synth lab and student-teaching the hardware part of the classes for credit. After graduating he sold recording equipment and Synthesizers, and taught electronic music at Seattle's then only synth store, The Electronic Music Box. He has been in pro-audio in Seattle ever since then working for Symetrix Inc, Digital Harmony, and currently is a Graphic Design and Imaging Specialist for LOUD Technologies and it's family of companies (Mackie Designs, TAPCO, EAW, Ampeg, and Crate to name a few). He has played in many early electronic music groups in the Seattle area including Young Scientist, K7SS, Body Falling Downstairs, Audio Letter, Sequencer People, Ersatz Planet, Just a Visitor and more. He has a basement full of gear and is constantly working on the never-ending "animation and soundtrack project".

William "Pete" Moss

William "Pete" Moss became interested in music in high school, when it became obvious that he would never become an astronaut. For several years, he worked on computers and composed music at different times, until that fateful day when he realized that computers could be used for music. Since then, he hasnt looked back. Pete has won a few awards for his music, and has had it played in several parts of the world, including the USA. He received a BM from Texas Christian University where he studied with Blaise Ferrandino and Gerry Gabel. He then went to the University of Texas at Austin, where he studied with Russell Pinkston and earned his MM. Now he is working towards his DMA at the University of Washington with Richard Karpen and Juan Pampin. Petes hobbies include motorcycling and video games, but not video games about motorcycling.

Juan Pampin

Juan Pampin is Assistant Professor at the Center for Digital Arts and Experimental Media (DXARTS), University of Washington. Pampin received an MA in Composition from Conservatoire National Supérieur de Musique de Lyon, France and a DMA in Composition from Stanford University. Juan Pampin's research has focused on Spectral Modeling of sound. He has also undertaken research in the areas of Perceptual Audio Coding and Sound Spatialization. His signal processing research has been presented at major international conferences, particularly his Analysis Synthesis Transformation (ATS) software project. His compositions, including works for instrumental, digital, and mixed media, have been performed around the world by soloists and ensembles such as Arditti Quartet, Les Percussions de Strasbourg, and Sinfonia 21.

Joshua Parmenter

Joshua Parmenter is currently finishing a DMA in Music Composition at the University of Washington with Prof. Richard Karpen. He composes both acoustic and computer music using the SuperCollider programming language, as well as Common Music and CSound. His Music for Bassoon and Live-Electronics was featured in the music jukebox at last year's ICMC in Miami, Florida, and his Organon Sostenuto was premiered last January at the Royal Danish Conservatory in Copenhagen. Music samples, as well as classes and unit generators for SuperCollider are available at: homepage.mac.com/joshpar.

Directions to the meeting location

Follow this [link](#).

References

The short history of electronic music synthesis is a compilation of material from the following sources:

Wikipedia.org

[Synthmuseum.com RCA MK II](#)

[Synthmuseum.com archives](#)

[Columbia University](#)

JJ Johnston PowerPoint Presentations

[PowerPoint from Session TS-1: Physics of Sound and Hearing](#)

[PowerPoint from October 2004 PNW Section Meeting](#)

Our meetings are open to anyone interested in Audio. AES membership is NOT required for you to attend our meetings.

Last modified 5/25/2005.