

## **Meeting Notice PNW AES March Meeting**

### **Opus 4 Studios with Studio Application of LARES (Lexicon Acoustic Reinforcement and Enhancement System)**

**Presented by:**

**Dr. Michael Matesky – Opus4 Studios  
Steve Barbar - LARES**

**When:** March 19, 2002 (Tuesday), 7:30PM

**Where:** Opus 4 Studios  
23004 35th Avenue SE, Bothell, WA

### **Opus 4 Studios**

Opus 4 Studios is a newly designed and built music recording facility located in Bothell. It is unique in its application of LARES in the recording studio environment. LARES uses a multiplicity of loudspeakers, multiple microphones, and Lexicon proprietary reverberation algorithms to create different natural acoustic environments. The goal is to create an acoustic space that is familiar and conducive to musical performance. Opus 4 believes that a musically friendly space leads to musically great performances leading to musically great recordings. The LARES system is visually and audibly transparent to the listener. The musicians simply experience the greater envelopment of a more enjoyable listening environment.

Opus 4 Studios is meticulously engineered to provide an extraordinarily neutral acoustical environment. 16,300lbs (!) of rockwool insulation between the inner and outer studio walls help the recording room minimize frequency irregularities and sound reflections.

### **About LARES (Lexicon Acoustic Reinforcement and Enhancement System)**

LARES is a recently developed, unique electro/acoustic audio system that can improve and/or alter the acoustic quality of a space without architectural alteration. The LARES system is a

breakthrough in electronic architecture. Utilizing advanced digital electronics and patented digital signal processing (DSP) techniques, LARES can optimize the level of reflected sound and reverberation. LARES generates time variant lateral energy that is perceived by the listener as reflections from side walls and other reflective surfaces. These reflections contribute to the rich sound and lush reverberant decay heard in good concert halls. Lexicon's 20 years of acceptance as the leader in digital reverberation assures acoustics that are completely natural.

LARES can be adjusted for any type of performance---from music requiring long reverb times, to dramatic performances that require greater articulation and ambient warmth. Adjustments are simple, and they can even be made in real time. This provides unprecedented flexibility for spaces, allowing them to be successfully shared by groups that have vastly different acoustical needs.

Here are the core building blocks of the LARES system at Opus 4 Studios:

- (2) Schoeps microphones
- (1) LARES/Benchmark 4 channel microphone preamplifier
- (3) LARES DSPs
- (2) LARES/Lexicon 480L engines
- (10) LARES/Bryston 140 watt/channel/4channel amplifiers
- (72) LARES/Krix loudspeakers
- Additional associated equipment.

The LARES system at Opus 4 Studios is remotely controlled by a Crestron LCD RF system controller.

Since the pickup microphones are within the same acoustic space that the LARES system is enhancing, the possibility of acoustic feedback is a distinct problem. LARES greatly reduces potential feedback by generating time variant energy, which simulates continuous movement of the loudspeaker. Before feedback can occur, the energy coming from each of the 72 loudspeakers changes. With proper tuning, this combination of time variant energy with multiple audio channels results in remarkable freedom from feedback, coloration, or artifacts.

Some typical LARES installation locations:

- The Elgin Theatre, Toronto, Ontario.
- Church of St. Michael and St. George, St. Louis, MO.
- Blockbuster-Sony Music Entertainment Center, Camden, NJ.
- St. James' Church, New York, NY.
- Copley Symphony Hall, San Diego, CA.

- LDS conference center, Salt Lake City, Utah. Capacity 21,600.

## **--Aurika Hays**

*AES PNW 2001-2002 Section Chair*

<mailto:aurika@earthlink.net>

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<mailto:louie@u.washington.edu>