



Audio Engineering Society, Inc. Pacific Northwest Section

Mailing Address: 4522 Meridian Avenue North, #201 • Seattle WA 98103
World Wide Web - <http://weber.u.washington.edu/~louie/aespnw.html>



1996-7 Recap and Important Election Info

Chairman's Message

This last year as your Chair has been really wonderful for me, and I hope you've enjoyed the meetings your Committee has put together for you. Our year has gone from Walt Jung's IC Workshop, to the AES Convention Wrap-Up and the look at Audio Control's IASYS, to the Rane tour and product demo, to January's Joint Loudspeaker Listening Workshop (with WAPS), to the St. James Media Matrix tour, to the tour of the Leo K. Theatre, to the Joint Panel Discussion on Recording in the Northwest (with SPARS), to the Art & Science of Troubleshooting Workshop with Perkins, Perkins, and Chinn, to the PAVO Firewire Seminar and Demonstration, to the Internet.audio Conference, and finished with a tour of KIRO/KNWX facilities. Your Committee has worked really hard to put all those meetings together, and it has been an honor to serve with them.

Now we are at the time of year to determine who will be involved in next year's Committee. A ballot is enclosed for each

AES PNW Section Member to vote. The ballot contains the nominations made by the Committee and at the June 26 Section meeting. Write-in spaces are available for each position.

Currently there are 4 Officers, and 6 Committee Members. Two Committee members terms are expiring and the Committee has decided to add two more Committee members, making a total of four open Committee seats. Since all Committee positions are at-large, the four top vote-getters will each serve a two year term.

On a personal note, it has been really fascinating to hear you each introduce yourself at the meetings, and hear about your niche in the audio world. One of the things that is so amazing about audio is how much of the world it encompasses, and how little each of us knows about so many of the areas, while being expert in our own. Thank you for sharing those introductions with us, as well as for your knowledgeable comments and questions at



Dan Mortensen (photo by Rick Smargiassi)

the meetings. We really have quite a fine Section.

Best wishes to you all,
Dan Mortensen, Section Chair 1996-97

14th International Conference on Internet Audio Held in Seattle

The AES 14th International Conference, "internetaudio.aes.org", was held at Seattle's Bell Harbor Conference Center June 13-15. The conference presented many of the world's experts on the technology of computer-based audio and media. PNW member Aurika Hays (Progressive Networks) was co-chair of the event, PNW member and committeeman Allen Goldstein (Pavo) served as volunteer coordinator, and many local members (and a few non-members) assisted with the production of this event.

Remember the URL

The Internet-savvy know what it means - the Uniform Resource Locator, or Internet address of a World Wide Web page. In this case, The Pacific Northwest Section's page, which currently resides at:

<http://weber.u.washington.edu/~louie/aespnw.html>

It usually has the first news of our meeting announcements, the complete version of our meeting recaps and photos, Section and officer contact info. You can also find the AES' main Web page at :

<http://www.aes.org>

Inside:

- **The AES PNW Year in Review**
(capsule recaps abridged from the Web page report)
- **Ballot for 1997-8 PNW Section Officers**

1996-97 Officers and Committee Members

<i>Chair</i> Dan Mortensen Dansound 206-525-2113	<i>Vice-Chair</i> David Scheirman Concert Sound 206-842-9876	<i>Secretary</i> Gary Louie UW School of Music 206-543-1218	<i>Treasurer</i> Terry Denbrook KUOW 206-543-2710	<i>Committee</i> Barry James Puget Sound Recording 206-790-5540	<i>Committee</i> Steve Macatee Rane 425-355-6000	<i>Committee</i> Bob Moses Pavo 206-682-7223	<i>Committee</i> Rick Smargiassi Seattle Center 206-684-7116	<i>Committee</i> Rick Chinn Uneda Audio 425-868-0442	<i>Committee</i> Allen Goldstein Pavo 206-682-7223
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Walt Jung Talks Audio ICs

photos by Rick Smargiassi



Walt Jung of Analog Devices

32 people came to Jack Straw Productions Studios on October 11, 1996, to hear Walt Jung speak on audio amplifier I.C.s.

Walt is well known as a guru of audio op-amp design. His books, such as *Audio I.C. Op-Amp Applications*, and *I.C. Op-Amp Cookbook*, perhaps inspired a whole generation of professional audio designers. He is currently an Applications Engineer for Analog Devices.

Armloads of literature and article reprints were passed out. The majority of the evening was spent reviewing material from the Analog Devices System Applications Guide book. When offered as a course, it takes 2 days, so some material was skipped. Many mic preamp circuits were discussed, some designed with help from Jensen Transformers. Many tweaky questions were fielded by the audience, including what kind of resistors to use in certain places, and what kinds of capacitors. Line drivers were examined. Better voltage regulators were discussed. The concept of thermal distortion was brought up.

Afterwards, Walt indicated that he was very stimulated by the quality of the interaction, and wished to return in the near future for another meeting. (Gary Louie)

Local Re-Hash of the 101st AES Convention

After an officer's dinner meeting at the Lake Washington Grillhouse and Taproom (in attendance: Dan Mortensen, Gary Louie, Steve Macatee, Bob Moses, Barry James), 4 others joined the group for a re-hash of the recent 101st AES convention in Los Angeles, November 8-11.

Member Rick Fisher was impressed with the History of Mastering workshop. Gary Louie had a collection of trinkets from the show and programs from the opening ceremony, the NARAS Grammy Recording Forum, and the rest of the convention. Most agreed that the weirdest item seen must have been the J-Con audio plug to AC extension cord adapters. Bob Moses was impressed with the multi-channel audio progress evidenced as he hosted a suite for his new company (PAVO).

Those who could not attend got a taste of what happened, and those who were there heard about a few things they couldn't get to. (Gary Louie)

AudioControl Industrial's IASYS

On November 21, 1996, two dozen members and guests of the Section heard a presentation by Tom Walker, of AudioControl Industrial, describing the new IASYS electro-acoustic analyzer.

The Iasys has 4 major distinctions compared to other audio analyzers, according to Walker: It is designed to give answers, not interpretable data; it gives the user a better sounding sound system fast; it is something you can use every day; and it allows you to precisely

calibrate tools you already have.

He said existing analyzers are created for engineers and PhD's to use, not the average mixers at live events or sound contractors installing permanent systems.

The device performs four tests:

1) Crossovers 2) Delay and Polarity 3) Coherence and Equalizable Frequency Response 4) Limiter Setting

Demonstrations of each of the tests were given at the meeting using two small speaker systems, and IASYS seemed to do what it was designed to do.

(Dan Mortensen)



Tom Walker of AudioControl Industrial

RANE Corp Factory Tour

On December 4, 1996, 26 members and guests of the Section were treated to an extensive tour of Rane's manufacturing plant in Mukilteo, WA.

We started in the service department. There are only 2 employees actually fixing gear, with one more on the telephone, and yet turnaround is usually only 3 days.

We then saw their 4 CAD stations, and heard how their products are developed by teams of people defining the products.

After examining the manufacturing process, we spent quite a bit of time discussing and observing the testing process.

Members and guests were then treated to refreshments and snacks which set a new plateau for AES meetings, featuring cookies, pies, cakes, soft drinks and coffee, as well as several other delectables. After waddling to our seats, we heard descriptions and demonstrations of a couple of upcoming products. (Dan Mortensen)

Sound Reinforcement Speaker Workshop

What's the soundman's dream experiment? Try a few of the best horn-loaded, single driver per bandpass, all-in-one-box, medium-large format loudspeakers around? Have them all at once for instant comparison? Have a real theater to try them in? Free food? No Problem! The PNW Section did this for their January 1997 meeting, the Loudspeaker Listening Workshop. Co-sponsoring the event was WAPS, the Washington Association of Production Services, a group of companies in the live event production industry.



Dan Mortensen points to speakers

The 2,800 seat Paramount Theater was snagged for the venue, and a thorough test protocol was established. Primarily, there would be no contest to find the "best" speaker. Attendees received a sheet of instructions on how to evaluate the speakers themselves. They were

free to roam the house during the tests to hear for themselves. Speakers were carefully set up to eliminate as many known variables as possible. Distances from the speakers and angles off axis were marked throughout the theater. Recorded test material was described, including pink noise, voice and various music styles, and played at several announced levels. AudioControl Industrial provided equipment and expertise to match levels and check for polarity. Attendees were warned to bring ear protection and to listen for various attributes.

Speakers included were the Apogee C-3, EAW KF-850, Electro Voice Delta Max DMS-1183/64 and Meyer Sound Laboratories MSL-4. Snacks were supplied by the AES for intermission, and the testing proceeded until all tests had been completed. (Gary Louie)

St James' Media Matrix



System designer Brian Bylenok talks at St James

On February 5, 1997, the PNW Section toured the installed sound system in Seattle's recently renovated St James cathedral. System designer Brian Bylenok was the host.

The acoustic problems in cathedrals are well known. Mostly, it's long reverb time, making voice reinforcement and intelligibility difficult. No acoustic treatment was allowed, and the architect wouldn't allow hanging speaker clusters for esthetic reasons. Eventually, only one acoustic consultant (Smith-Fause) would agree to attempt a distributed sound system.

A system was devised around the then-new Peavey Media Matrix computer control system. The system includes 8 normal mic positions around the cathedral, and 6 to 8 delay zones. Many Tannoy CPA5 mini speakers provide most of the distributed sound, with EAW JF80s at key sites. Naturally, not all went smoothly. The Media Matrix was in its infancy, and numerous modifications were provided as development progressed. A TEF analysis of the early system indicated that the software automatic mic mixer was not working well. Various system tune-ups were implemented. The software audio processing was reworked to operate reliably within the DSP resources - even though the guidelines suggested that it should have already worked.

Attendees walked throughout the cathedral to hear the system while a person spoke through various mics. A main floor cabinet has tie lines and a computer monitor for basic system operation, and the group went downstairs to see the racks with analog mic preamps and the Media Matrix hardware. (Gary Louie)

SPARS/AES Panel on Recording in Seattle

A large crowd came to the Art Institute March 12 for a discussion of Recording in Seattle. Steve Lawson described co-sponsor SPARS (Society of Professional Audio Recording Services), which is an organization that helps studios run their business.

Barry James acted as moderator, and started by



Panelists Steve Lawson, Peter Lewis, Kearney Barton, Peter Barnes, John Goodmanson, Glenn Lorbiecki, and moderator Barry James

asking Kearney Barton about early recording in Seattle in the 1950s. Kearney related anecdotes of notables such as the Ventures, the Wailers and Jimi Hendrix. Then each panelist gave their account of how they came to Seattle and got into the sound business.

The Seattle recording market was compared to other markets. Peter Barnes felt Seattle was more diverse and high-tech, with a can-do attitude. Glenn Lorbiecki stated that in the 80's, Seattle had more DAWs than anyplace else on earth. Lawson noted that many small boutique facilities in L.A. are doing well, and taking a lot of business away from the big studios.

Disagreements were made about higher quality of project studio product, but some felt that many projects were not any better in spite of the fancy new low cost recording equipment. Musicians felt that the new equipment helped develop their creativity. Lawson commented that equipment is often overrated - a good engineer can get good recordings with basic equipment. Some panelists did say that their DAWs did not sound as good as analog. Kearney Barton felt that there have always been bad recordings - you can't blame it on the equipment of any era. The panel agreed that the gear are just tools - you use the right thing for the job, as well as you can. Analog was still lauded. Panelist noted that Audio Engineering was a lifelong learning commitment. (Gary Louie)

Leo K Theatre Tour

The PNW Section toured the Leo Kreielsheimer Theatre March 24, 1997. The theatre is located at Seattle Center, the home of many other performing arts theatres. It is part of the Seattle Repertory Theatre complex. All of the funds for the new theatre's construction and state-of-the-art audio systems were funded by private donations.

The heart of the system is by Level Control Systems (LCS). The LCS unit is a 16 input by 32 output audio router with adjustable cross points. The LCS router is controlled by a Power Mac 7500 and is linked via MIDI. The front-of-house mixing console is a beta version of a the Mackie SR40.8 console.

Attendees had the opportunity to hear sound effects of a steam locomotive with passengers arriving at a train station with different sounds coming from speakers located throughout the theatre. For these spatial



Theatre soundman Steve Collins(left), Mark Pearson, and Jeff Sanderson of CCI

effects a variety of EAW speakers are located front-of-house above the proscenium arch - left, center, and right; in the balcony face; under the balcony; in the catwalks, and on-stage.

Other amenities include an elaborate paging system implemented by using Crown IQ technology controlled by a Crown IQ drone. A two channel Sennheiser infrared assistive listening system provides audio to the hearing and visually impaired patrons. On the video side, an infrared sensitive black and white camera with an infrared light source provides visibility on the video monitors backstage in a complete black out.

The sound mixing equipment racks contain hard disk recorders, and MiniDisc recorders making analog audio recording tape a thing of the past. And, yes they did specify an isolated grounding system to minimize possible hum and RFI problems. Attendees gathered outside the theatre afterwards for refreshments on the Center grounds. (Rick Smargiassi)

The Art of Troubleshooting



Rick Chinn, Mac Perkins, Cal Perkins

Over two dozen people gathered at Jack Straw Productions Studios on April 29, 1997 to hear about sound system troubleshooting. Famed local troubleshooters Mac Perkins (Pacific NW Theater Associates), Cal Perkins (Mackie Designs) and Rick Chinn (then with Mackie Designs, now with Uneeda Audio) shared their experiences and troubleshooting tips. The meeting was co-sponsored by WAPS, the Washington Association of Production Services.

Rick, Cal and Mac each gave fascinating accounts of their lifetimes in audio, with many anecdotes about the history and evolution of audio, as well as many troubleshooting stories.

Rick provided a handout with many troubleshooting hints and tricks, such as: -carry lots of adapters; -use a cheap transistor radio for a quick spectrum analyzer when searching for interference sources; -if you need a line level source, a microphone will deliver it if you cup your hands around it and yell into it.

At intermission, attendees enjoyed some light refreshments, then reconvened for the rest of the meeting. The trio brought out many of their favorite gig bag hardware tricks, and did some demonstrations of troubleshooting fundamentals on a small sound system. The analytical process was outlined, and the importance of understanding what the real problem is, and how to logically solve it. More stories were shared. (Gary Louie)

Pavo's FireWire

On May 28, Bob Moses and the staff of Pavo, Inc. spoke at the Jack Straw Productions Studios on audio implementations of IEEE 1394 (Firewire).

Attendees heard an overview of 1394 technology and the benefits it offers the A/V world, including: one cable for all connections and signals, plug & play simplicity, isochronous data transfer offering guaranteed delivery and synchronization of audio and video streams, and cross-industry compatibility.



Bob Moses of Pavo

Moses demonstrated Pavo's Papaya IEEE 1394 Audio Adapter, the first commercial 1394 audio product and the hardware reference chosen by Microsoft for Windows driver development.

Moses discussed the activities of the 1394 Trade Association, the MIDI Manufacturers Association, and the Audio Engineering Society Standards Committee to create audio protocols for 1394. The technology is still young, and much work remains to create an industry standard protocol for streaming audio and controlling audio equipment over the 1394 bus.

The evening finished with a Q and A discussion and light refreshments. (Paul McClellan)

KIRO/KIRO-FM/KNWX Station Tour

On June 26, 1997, two dozen attendees were treated to a tour of the studios for radio stations KIRO, KIRO-FM and KNWX in Seattle. Host was Buzz Anderson, Chief Engineer. The facility, conceived and executed by Anderson, was custom built into what used to be an insurance building. Due to swift business deals, the station had to be designed and constructed in a short time. The requirements were prodigious, since KIRO is a market leading news/talk and Mariners baseball station, KIRO-FM a talk station and KNWX all news. The number of STLs, phone lines, ISDN and so on were more than a standard music station.

The basement equipment room contained the main racks of control and processing equipment, such as the RCS digital audio automation system, routers, loggers, and an Australian stick-bug - the mascot, whose terrarium is mounted in rack 2. Many phone lines were in evidence, and much wire for every conceivable transmission mode - ISDN, telco, digital audio, computer, etc. Cable trays featured a 4 inch wide copper strap running throughout the tray system for grounding.



Buzz Anderson, chief engineer(left)

Upstairs were the main studios and production suites. All custom cabinetry held desks and equipment, and the 4 control rooms were available for the 3 stations, with 1 reserved primarily for Mariners baseball broadcasts.

Adjourning to the basement lunchroom, attendees had light refreshments, then fielded a Q and A session with Buzz. He stated that he would soon be changing jobs, to be chief engineer at crosstown radio rival KOMO. He related many perspectives of the local radio business, and held high regard for the friendliness of the local radio engineers. (Gary Louie)

PNW SECTION
NEWSLETTER
and BALLOT

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AUDIO engineering society, Inc. Pacific Northwest Section 1997-98 Ballot

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Directions

Here are the candidates nominated by the committee and by members at the June 26 Section Meeting. Only Pacific Northwest Section members may vote. You may write-in any person for any position. The top 4 vote getters for the new Committee Members are the winners. Mail this to the Section Secretary at the address on the reverse side by July 21. You can fold this up, tape it and mail it. Write down your Member Number (on your mailing label) to allow verification only in the event of an election problem.

member #

Chair

- David Scheirman** has been a member of the AES since 1975 and is a current member of the AES Board of Governors. He has served as the Vice Chairman of the PNW section during the past year. Sound reinforcement is his field of specialization, and prior to becoming a Washington resident he co-founded Summit Laboratories and founded Concert Sound Consultants. While living in the Seattle area has worked for MediaLink Technologies Corporation and Innovative Electronics Design. He is currently employed by JBL Professional.

Vice-Chair

- Rick Chinn** is currently a full-time house husband and freelance mixer/engineer/writer/whatever. For the last 2.5 years, he was employed at Mackie Designs as an analog product designer. Prior to that, he was employed in various positions (sales, marketing, engineering) at Tapco, Fluke, Microsoft, Audio Control Industrial, and Symetrix. Rick has been a member of the AES since around 1970, and a participant to one degree or another in the PNW section since its inception. He has been a member of the committee for longer than he can remember.

Secretary

- Gary Louie** holds a BSEE from the University of Washington, and is the recording engineer at the UW School of Music. He has served as a PNW committeeman, vice-chair, chair, and secretary.

Treasurer

- Allen Goldstein** is currently a Senior Design Engineer with Pavo Inc, working on IEEE 1394 audio implementation as well as other projects. For the previous 5 years he has been Director of Engineering of Symetrix Incorporated where he was instrumental in bringing numerous projects to market as well as designing several himself. Prior to that, Allen was a Digital Design Engineer for Peavey Electronics, where he designed 14 products in five years. Allen has been on the PNW AES committee for four years and his only qualification for Treasurer is a working knowledge of Quicken (TM).

4 Open Committee Positions

- Terry Denbrook** is Chief Engineer at KUOW Radio at the University of Washington. He was a founding member and first chairman of the Pacific Northwest Section and has been active in it ever since.
- Raul Gonzalez** holds a BSEE (Acoustics & Communications) and an MFA in Sound Engineering (thesis pending) from Purdue University. Raul has been in the audio field since 1989 and has worked as design or mixing engineer for Purdue's Hall of Music, Trump Plaza, Coffeen Fricke & Assoc, The Audio Systems Group, Jesus Christ Superstar Off-Broadway Tour and Jam On the Groove International Tour. Raul currently works as an assistant design engineer for Concert Sound Consultants, Inc. and freelances as a mixing engineer whenever possible.

2 year terms; vote for up to 4. (listed alphabetically)

- Aurika Hays** has been a member of the AES since the age of 13. She comes to Seattle via the New York, San Francisco, and then Miami sections. Throughout her life she has sought to integrate her love of music and her passion for engineering. Aurika is a violinist, as well as a Software Developer at Progressive Networks, where she is working on RealAudio and RealVideo codecs, encoders, and players. Most recently, Aurika co-chaired the 14th International AES Conference "internetaudio.aes.org".
- Dan Mortensen** - When not eking out a living by providing Meyer-based sound systems for live events, or doing volunteer work for the AES or WAPS (both of which he chaired last year), Dan hangs out with his family and goes for walks in the city. If you don't vote in this election, he'll bite your ear.
- Skip Pizzi** now works for Microsoft, and is also radio editor for Broadcast Engineering magazine. Previously he worked for National Public Radio.

Returning Committee serving the last year of their 2 year terms.

- Barry James** runs Puget Sound Recording (when not working for USWest). He holds a certificate in Sound Production from the University of Washington Extension and has studied audio at The Evergreen State College.
- Stephen Macatee** has been a design engineer at RANE Corporation for ten years.
- Bob Moses** is a principal at PAVO in Seattle, and previously an engineer at RANE.
- Rick Smargiassi** is head of the Seattle Center Sound Department; 1995-96 PNW chair.

Write-Ins

names:

positions: