

## **Notice of Elections**

**We will elect our Section officers and committee members at start of the June Meeting. If you are an AES Member or AES Associate Member, you may vote in this election. Even if you can't attend the entire June meeting, please arrive at 10:30am so that you can vote. Note that you can also vote by mail.**

[Slate of Candidates](#)

---

## **Everything\* You Need To Know About Using Ethernet Cable For Portable Audio An All-Day, In-Depth Workshop**

**Presented by  
Dan Mortensen  
and  
AES Pacific Northwest Section**

**Saturday, June 1st, 2013, 10:30am until at least 4pm  
Raisbeck Hall, Cornish College**

[Directions to Raisbeck Hall](#)

What do all those CATegory cable numbers mean? How are they different from one another? Does it matter if you use this one instead of that one? How well do they hold up to repeated deployment? Can you do anything to them while in use that will cause a disruption in your signal transfer? If so, how can you avoid doing that thing? Is it hard to put those little connectors on them? How well do those little connectors stand up to normal use/abuse? How is an Ethernet cable's performance measured, qualified, and quantified? Two of our presenters will bring Fluke DTX-1800 network cable analyzers so we can characterize the various cables on hand.

You are encouraged to bring your own ethernet cables for non-destructive testing. It appears that many CAT6 cables do not meet the CAT6 standard.

If you have devices that use audio over Ethernet, we encourage you to bring those as well, so that we can compare the robustness of the data transfer among devices.

The first half or so of our day will be spent answering these questions and others like them, and the second half we will use a variety of CAT cables with multiple digital consoles (including an A&H iLive and a unit that uses

the Dante protocol) and will try to interrupt the data stream, so that we can understand what is tolerable and what will cause a real problem for you at your event.\*\*

While we intend to test the limits of environmental and circumstantial factors on Ethernet cables, it is not our intention to harm any cables during the course of our testing.

Our intention IS to take advantage of the many smart and experienced people we have in our Section, and to have everyone present share their knowledge with the group in a roundtable fashion. There are several knowledgeable people specifically invited and confirmed to attend at the time of this writing (5/7), and more names will be added soon.

So far, the list includes:

- Stephen H. Lampen, CBRE, RCDD, Technology Specialist, Multimedia Products, Belden Electronics
- Mac Perkins, Pacific Studios
- Fred Forsell, Forsell Technologies
- Rick Rodriguez, Fluke Corp
- Kurt Denke, Blue Jeans Cable
- John DiNicola and Steve Young, Product Support, Music Group, Behringer
- Jeff Gerson, Gerson Power and Light
- Moderator: Dan Mortensen, Dansound Inc., PNW AES Section Committeemember, and digital console owner

Please keep checking this page, as more information will be added as it becomes available. This workshop will be available as a live stream on the Internet by invitation. Respond to [Dan](#) by May 26 if you want to see what's going on but can't physically be there. Spaces are limited.

As with all our meetings, admission is free and open to all interested people. There will be a lunch break, with either food you've brought for yourself or takeout from nearby. There is a Whole Foods store about 1.5 blocks away, and a fair number of restaurants nearby. Ideally, these breaks will be for personal networking as well as personal sustenance.

\* "Everything" is a big word; we'll present as much as can be fit into the day, which could extend into the evening if we wish. This should be a unique and informative event.

\*\* Our Moderator has specific experience in this area.

## Schedule For The Day

- 10:00 am Enter building, power up gear, setup refreshments, doors open
- 10:30 Dave Tosti-Lane starts meeting, introductions all around, PNW AES voting begins (if no quorum, people who can't come to workshop can stop in and vote throughout day if necessary, without disrupting workshop)
- 10:50 **Part I:**

- A. Cable description, construction, twist and lay, purpose, ruggedness, care and storage, usage do's and don'ts, etc. Steve Lampen.
- B. Differences in cable twists/no standards? Dan (pictures)

**Part II:** Connectors: Various types, purchasing and use considerations. Demo of putting on connectors (Mac? Kurt?) unshielded & shielded

**Part III:** Measurement: Mac Perkins, Rick Rodriguez, Kurt Denke

- Fluke DTX-1800 (x2)
- Tektronix 1502 TDR
- Fluke Microscanner Pro
- Greenlee NC-500 NETcat Pro
- -others

**Part IV:** Data disruption workshop:

- A. Dan: Discussion of his experience, directs group into teams to try to disrupt data.
  1. 2 consoles/snakes connected with Belden 7923A 200' CAT5e;
  2. 1 console w/CablesToGo 150' CAT5e;
  3. 1 console w/GEPCO Tactical CT504HDX 250';
  4. 2 consoles with something else
- B. Once we find the combination of pulling and squeezing that disrupts the data, see if that translates across cable types and Ethernet audio devices. CAN WE MEASURE WHAT IS BEING DISRUPTED AND WHY?
- C. Mac: Demo console & snake head connected to two power sources with experientially maximally different ground potentials, connected together with UTP and then STP. Listen to results.
- D. Other examinations based on above
  1. Everyone stand on a cable and stomp;
  2. Magnetic fluorescent light ballast near cable;
  3. Nasty dimmer near cable;

around 12:30pm Lunch around 12:30pm; orders taken and runners sent to nearby restaurant. Cash only, unless you walk over and get it yourself with your credit card or check. Eat in room and network/chat.

around 3pm Break. Pause for the cause.

after 4:30pm **END**

# MISCELLANEOUS:

Ongoing testing of CAT cables brought by attendees, if any, throughout the day.

This [LINK](#) does a good job of explaining which parameters are of interest when evaluating a CAT cable.

A paper, by Rick Rodriguez, that describes in some detail, the basics of digital audio data transmission over twisted pair (UTP) cable. [Click Here \(450kB pdf\)](#)

## Dave Tosti-Lane

*AES PNW 2013-2014 Section Chair*

**n.b.** *The material presented at our meetings is the opinion of the presenter and not necessarily that of the Society. You are encouraged to conduct your own research and to form your own opinions before adopting the presented material as Truth.*

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

### 2013-14 Officers

Chairman	Vice-Chairman	Secretary	Treasurer	At Large:
Dave Tosti-Lane	Steve Malott	Gary Louie	Greg Mauser	Aurika Hays,
				Refer to the Officers and Committee contact list for contact information.
				Rick Chinn, Webmaster

---

### Program Committee

Committee 1	Committee 2	Committee 3	Committee 4	Committee 5	Committee 6	Committee 7	Committee 8	Committee 9	Committee 10
Bob Smith	Mark Rogers	Scott Mehrens	Lawrence Schwedler	Daniel Casado	JJ Johnston	Dan Mortensen	Dr. Ivan Tashev	Dr. Michael Matesky	Rich Williams