

**Minutes**  
**Control Protocols Working Group**  
Saturday, 26 October 2019  
Westlake, TX

**Presiding chairperson:** Michael Lay

**Recording secretaries:** Richard Nix & Karl Ruling; ESTA

**Attendees:**

Justin Bennett; University of the Incarnate Word; O; U  
Rene Berhorst; MA Lighting; P; MP  
Scott M. Blair; Megapixel; P; CP  
Jim Bogdanowicz; Kino Flo, Inc.; A; MP  
Pete Borchetta; Altman Lighting; P; MP  
John David (Javid) Butler; HDR Consulting, LLC; P; DE  
Matt Didon; ON LX Limited; P; CP  
Tucker Downs; Tucker Downs; O; G  
Bill Ellis; Candela Controls, Inc.; P; DE  
Robert Goddard; Goddard Design Co.; P; MP  
Robert Haycock; UC Berkeley; O; U  
Mitch Hefter; USITT; P; U  
Jon Hole; Eaton; P; MP  
Wayne David Howell; Artistic Licence Holdings; P; DE  
Leroy "Tripp" Oliver, III; Mainstage Theatrical Supply, Inc.; P; DR  
Michael Karlsson; LumenRadio AB; P; MP  
Sam Kearney; Electronic Theatre Controls, Inc.; P; MP  
Paul Kleissler; City Theatrical, Inc.; P; MP  
Edwin S. Kramer; I.A.T.S.E. Local 1; P; U  
Ulrich Kunkel; E3 Engineering & Education for Entertainment GmbH; P; U  
Hans Lau; I.A.T.S.E. Local 728; P; U  
Michael Lay; Michael Lay; P; G  
Kevin Loewen; Acuity Brands Inc.; P; MP  
Jim Love; Tait Towers Manufacturing LLC; P; MP  
Rob Love; Insight Lighting; O; MP  
Bill McIntyre; Show Distribution Group, Inc.; P; CP  
David G. Meschisen; Lumenpulse Group; O; MP  
Daniel Murfin; Royal National Theatre; P; U  
Maya Nigrosh; Sonos; P; MP  
Richard J. Nix; ESTA; exf; G  
Jason Potterf; Cisco; P; MP  
Mark Primrose; Kino Flo, Inc.; P; MP  
Karl G. Ruling; ESTA; exf; G  
Shawn Silverman; Lighting Infusion LLC; P; DE  
Christopher B. Tilton; About the Stage, LLC; O; DE

No visitors.

**1 Opening remarks**

Michael Lay called the meeting to order at 09:01, welcoming everyone to Texas, and thanking everyone for taking time out of their busy schedules. He reminded attendees to silence their phones, and to be mindful of the online broadcast by not drumming on the tables or making other noises near the microphones.

Michael Lay gave Milton Davis's regrets for not attending. Davis could not participate because of a scheduling conflict.

Michael Lay introduced Mitch Hefter as the monitor for the WebEx remote access to the meeting.

Lay noted that Roger Lattin had passed away on October 11, and so was not with us at this meeting. He offered this short eulogy:

I'm sorry to open today's meeting on a somber note, but I thought it was important to acknowledge a bit of a "hole the room" today. I'm very saddened to report that our long time friend, colleague and "Hollyweird" 728 representative Roger Lattin passed away on October 11th.

Roger was one of the longest serving volunteers in the ESTA Technical Standards Program. He worked so very hard to represent the end-user community (or, as he liked to refer to them, "end losers"). You could always count on Roger to donate his time and to share his expertise and knowledge—particularly of what was really going on out in the practical application of our standards in his beloved industry.

I'd like to note that Roger was active in most of the TSP's Working Groups. I always admired his stamina on these conference weekends as he had a lot of irons in the fire in this program. Personally, I will miss his direct impact on the projects he was involved in with the Electrical Power Working Group where he made significant contributions over the years.

I think the best way to honor and remember Roger Latin's service to this organization is to continue to make certain that his end loser community is faithfully represented in all of our projects. With that said, let's take a moment of silence to honor our absent friend.

## **2 Anti-trust and patent statements**

### **2.1 Reading of the anti-trust statement**

The following statement was aloud to the assembly by Michael Lay.

ESTA and its members take seriously their obligation to comply with all applicable antitrust laws. Therefore, during this meeting and during all ESTA events, all discussions will be limited to those subjects that are permitted by the antitrust laws. All members should refrain from any discussion or mention of competitively sensitive subjects such as the current or future prices charged for any member product or services, current or future marketing plans or strategies, and current or future costs, including employee salaries. There also must be no agreement on the suppliers or customers that members will or will not do business with or the markets in which members will conduct business.

Violations of the antitrust laws can have serious consequences. If you have any questions or concerns about anything that is discussed at an ESTA meeting, please bring your concern to ESTA management. An easy to read pamphlet describing the antitrust laws is available from the ESTA staff.

Karl Ruling displayed the pamphlet in front of his laptop's camera, so it could be seen on-line as well as in the room. No antitrust concerns were brought to the attention of the assembly.

### **2.2 Reading of the call for patents**

The following statement was aloud to the assembly by Michael Lay.

ESTA intends not to publish any standard that contains protected intellectual property, unless that information can be licensed by anyone for a reasonable fee. ESTA uses a process of open patent and copyright disclosures to implement its intent. ESTA does not conduct patent or copyright searches and does not warrant that its standards contain no protected intellectual property.

In keeping with the open disclosures policy, I ask if anyone present wishes to notify this working group of the existence of a patent, patent application, copyright, or other protected intellectual property that might protect material in a standard being developed by this working group. You need not be the holder of the patent or copyright to notify this working group of its existence.

Nothing was revealed.

### **3 Attendance and Membership**

#### **3.1 Requirements for membership**

The following statement was aloud to the assembly by Michael Lay.

Membership is open to all parties who are affected by the work of the group; membership in ESTA is not a requirement, but there is a \$100/person/year participation fee to help fund the costs of running the Technical Standards Program. Voting members are required to attend meetings and vote on letter ballots. Any principal member and alternate that both miss three consecutive meetings or that miss three consecutive letter ballots will have their membership status changed to observer. This action will be taken at the beginning of the first meeting after such inaction and will be recorded in the minutes of that meeting.

#### **3.2 Introduction of attendees**

Everyone in the room introduced themselves. Richard Nix called the names of the online participants, who also introduced themselves.

#### **3.3 Determination of a quorum**

Counting a show of raised hands by voters, Michael Lay determined that more than a supermajority (>50% of the voting body) was present.

#### **3.4 Processing of new membership and status change requests**

The following applications and status change requests have been received:

Bill Kirby; Crescit Software, Inc.; P; G (not present)  
David Meschisen; Lumenpulse Group; O; MP  
Hans Lau; Local 728; P; U  
Jim Bogdanowicz, KinoFlo; Alternate; MP  
Matt Didon; ON LX Limited; P; CP  
Matt Halberstadt; Electronic Theatre Controls, Inc.; O; MP  
Matthew Dews; Electronic Theatre Controls, Inc.; O; MP  
Michael Lay; Michael Lay; P; G (change of representation)  
Nicolas Goerg; Rosco Laboratories; P; CP (not present)  
Pete Borchetta; Altman Stage Lighting; P; MP  
Rene Berhorst; MA Lighting; P; MP  
Richard Thompson; Electronic Theatre Controls, Inc; O; MP  
Steve Denim; Electronic Theatre Controls, Inc.; O; MP  
Tom Barthel-Steer; Electronic Theatre Controls, Inc; O; MP

Michael Karlsson of Lumenradio asked for a status change to voting.

Scott Blair moved to accept the applications, except those not present and asking for voting status shall be accepted as observers. The motion seconded and carried with no opposition.

#### **3.5 Changes to observer status**

##### **3.5.1 Changes due to attendance**

The following voters have missed the last two meetings and are in jeopardy of being moved to Observer status if this meeting is also missed:

Ulrich Kunkel; E3 Engineering & Education for Entertainment GmbH; P; U

Bill McIntyre; Show Distribution, Inc; P; CP

Both were present. The were no changes to their voting status.

### 3.5.2 Changes due to missed letter ballots

The following voters have missed three consecutive letter ballots and have had their voting status changed to Observer, in accordance with Policies & Procedures outlined in agenda item 3.1.

*None! No changes.*

### 3.5.3 Automatic status changes

*The following names have been removed from the TSP roster due to an automatic procedural change, or for nonpayment of the TSP participation fee:*

*Michael Lay; Signify (Change of representation, see 3.4 above)  
Andrew Frazer; Stellascapes (non-payment)  
Eric Rasmussen; Electronic Theatre Controls, Inc.; A; MP (non-payment)  
Eric Johnson; (non-payment)  
David Gooch; Chauvet Lighting (non-payment)  
Mit Patel; Disguise (non-payment)*

### 3.6 Consensus body

The table below shows the full consensus voting body during the meeting, including those not present.

Delegate	Representing	Voting status	Int. cat.
Kevin Loewen	Acuity Brands Inc.	P	MP
Robert Bell	Acuity Brands Inc.	A	MP
Maurits van der Hoorn	Acuity Brands Inc.	A	MP
Pete Borchetta	Altman Lighting	P	MP
Wayne David Howell	Artistic Licence Holdings	P	DE
Christian Krueger	Blizzard Lighting LLC	P	MP
Bill Ellis	Candela Controls, Inc.	P	DE
Brent Boulnois	Candela Controls, Inc.	A	DE
Jim Ohrberg	Candela Controls, Inc.	A	DE
Jason Potterf	Cisco	P	MP
Paul Kleissler	City Theatrical, Inc.	P	MP
Milton Davis	Doug Fleenor Design, Inc.	P	MP
Ian Campbell	Doug Fleenor Design, Inc.	A	MP
Ulrich Kunkel	E3 Engineering & Education for Entertainment GmbH	P	U
Jon Hole	Eaton	P	MP
Sam Kearney	Electronic Theatre Controls, Inc.	P	MP
Steve Terry	Electronic Theatre Controls, Inc.	A	MP
Robert Goddard	Goddard Design Co.	P	MP
John David (Javid) Butler	HDR Consulting, LLC	P	DE
Peter Willis	Howard Eaton Lighting Ltd.	P	CP
Edwin S. Kramer	I.A.T.S.E. Local 1	P	U
John Huntington	I.A.T.S.E. Local 1	A	U
Hans Lau	I.A.T.S.E. Local 728	P	U

Delegate	Representing	Voting status	Int. cat.
Alan M. Rowe	I.A.T.S.E. Local 728	A	U
Matthew Ardine	I.A.T.S.E. Local 728	A	U
David Kane	I.A.T.S.E. Local 728	A	U
Mark Primrose	Kino Flo, Inc.	P	MP
Jim Bogdanowicz	Kino Flo, Inc.	A	MP
Larry Schoeneman	Larry Schoeneman	I	DE
John Valus_Jr.	Lex TM3	P	CP
Shawn Silverman	Lighting Infusion LLC	P	DE
Michael Karlsson	LumenRadio AB	P	MP
Rene Berhorst	MA Lighting	P	MP
Leroy "Tripp" Oliver, III	Mainstage Theatrical Supply, Inc.	P	DR
Scott M. Blair	Megapixel	P	CP
Michael Lay	Michael Lay	P	G
Matt Didon	ON LX Limited	P	CP
Simon Newton	Open Lighting Project	P	G
Daniel Murfin	Royal National Theatre	P	U
Bill McIntyre	Show Distribution Group, Inc.	P	CP
Maya Nigrosh	Sonos	P	MP
Jim Love	Tait Towers Manufacturing LLC	P	MP
Julian Hoare	Tait Towers Manufacturing LLC	A	MP
Mitch Hefter	USITT	P	U
Paul Beasley	Walt Disney Company	P	U
Eric Bloom	Westview Productions	P	DR
	<b>Total</b>	<b>34</b>	
	<b>Subtotals by interest categories</b>	5	CP
		14	MP
		2	DR
		5	DE
		6	U
		2	G

**Voting Status key:** P = Principal voter, A = Alternate voter, I = Individual voter

#### 4 Approval of the minutes from the last meeting

See *CPmin07-2019\_DRAFT.pdf*

Scott Blair moved to approve the minutes as written. The motion was seconded, and then approved with a combination of voice votes and show of hands. There was one abstention.

## 5 Approval of agenda

Mitch Hefter moved that the draft agenda be approved. The motion was seconded and then approved unanimously.

## 6 Old Business

### 6.1 Standards, Guides & Recommended Practice Maintenance

*This is a placeholder in the agenda, so we don't forget to maintain them. Documents prefaced with an asterisk (\*) are on the agenda elsewhere for reports or action.*

ANSI E1.3 – 2001 (R2016), Entertainment Technology - Lighting Control Systems - 0 to 10V Analog Control Specification & Application Guide For ANSI E1.3 – 2004 Lighting Control Systems 0 to 10V Analog Control Specifications. (Revision, reaffirmation or withdrawal by 17 February 2021)

ANSI E1.11 – 2008 (R2018), Entertainment Technology - USITT DMX512-A, Asynchronous Serial Digital Data Transmission Standard for Controlling Lighting Equipment and Accessories. (Revision, reaffirmation, or withdrawal by 31 May 2023)

\*ANSI E1.17 – 2015 Entertainment Technology - Architecture for Control Networks (ACN) (Revision, reaffirmation, or withdrawal by 21 May 2020)

\*ANSI E1.20 - 2010, Remote Device Management over USITT DMX512. (Revision, reaffirmation or withdrawal by 4 January 2016 – PINS filed for revision)

ANSI E1.27-1 – 2006 (R2016), Entertainment Technology - Standard for Portable Control Cables for Use with USITT DMX512/1990 and E1.11 (DMX512-A) Products. (Revision, reaffirmation or withdrawal by 8 April 2021)

\*ANSI E1.27-2 – 2009 (R2019), Entertainment Technology - Recommended Practice for Permanently Installed Control Cables for Use with ANSI E1.11 (DMX512-A) and USITT DMX512/1990 Products. (Revision, reaffirmation or withdrawal by 21 July 2024)

ANSI E1.30-1 – 2010 (R2016), EPI 23, Device Identification Subdevice. (Revision, reaffirmation or withdrawal by 17 February 2021)

\*ANSI E1.30-3 – 2009 (R2019), EPI 25, Time Reference in ACN Systems Using SNTP and NTP. (Revision, reaffirmation or withdrawal by 21 July 2024)

ANSI E1.30-4 – 2010 (R2015), EPI 26, Device Description Language (DDL) Extensions for DMX512 and E1.31 Devices. (Revision, reaffirmation, or withdrawal by 25 September 2020)

\*ANSI E1.30-10 – 2009 (R2019), EPI 32, Identification of Draft Device Description Language Modules. (Revision, reaffirmation or withdrawal by 21 July 2024)

ANSI E1.30-11 - 2019, EPI 33, Transport of root PDUs over TCP (Published on 25 June 2019. Revision, reaffirmation or withdrawal by 22 March 2024)

ANSI E1.31 - 2018, Lightweight streaming protocol for transport of DMX512 using ACN (Revision, reaffirmation, or withdrawal by 31 August 2023)

\*ANSI E1.33 – 2019, Transport of ANSI E1.20 (RDM) in an E1.31 environment (Revision, reaffirmation or withdrawal by 28 May 2024)

ANSI E1.37-1 – 2012 (R2017), Additional Message Sets for ANSI E1.20, Remote Device Management. (Revision, reaffirmation, or withdrawal by 18 May 2022)

\*ANSI E1.37-2 - 2015, Additional Message Sets for ANSI E1.20 (RDM) – Part 2, IPv4 & DNS Configuration Messages. (Revision, reaffirmation, or withdrawal by 25 September 2020)

\*BSR E1.37-4 – 201x, Remote Device Management over DMX512 Networks – File Transfer Control with Firmware Upload capabilities.(currently in public review cycle)

\*BSR E1.37-5 – 201x, General Purpose Messages for ANSI E1.20 RDM (currently in public review cycle)

ANSI E1.37-7 - 2019, Additional Message Sets for ANSI E1.20 (RDM) - Gateway and Splitter Configuration (Published on 05 July 2019. Revision, reaffirmation or approval by 04 May 2024)

\*BSR E1.59 – 201x, Object Transform Protocol (currently in public review cycle)

Application Guide for ANSI E1.3 - 2001, Lighting Control Systems 0 to 10V Analog Control Specification

Recommended Practice for Ethernet Cabling Systems in Entertainment Lighting Applications

Supplement to the Recommended Practice for Ethernet Cabling in Entertainment Lighting Applications

#### Withdrawn standards

E1.45 - 2013 (W2015), Unidirectional Transport of IEEE 802 data frames over ANSI E1.11 (DMX512A)

E1.30-7 - 2009 (W2016), EPI 29, Allocation of Internet Protocol Version 4 Addresses to ACN Hosts

## **6.2 BSR E1.20 – 201x, Remote Device Management over USITT DMX512.**

*From the July meeting minutes:*

*Wayne Howell reported that the task group has worked on comment resolutions for BSR E1.20. He is summarizing them, and will have a set of proposed resolutions for the next meeting.*

*See E1-20R20xx\_PR1\_resolutions-DRAFT.pdf, BSR\_E1-20\_201x\_r2\_marked\_up.pdf, and BSR\_E1-20\_201x\_r2.pdf*

Wayne Howell moved that the resolutions be accepted. The motion was seconded. The motion was approved unanimously with a show of hands and typed in “ayes” from those on-line, thus meeting the supermajority approval requirement.

Wayne Howell moved that the revised E1.20 be offered for public review. The motion was seconded and then unanimously approved.

## **6.3 ANSI E1.27-2 – 2009 (R2019), Entertainment Technology - Recommended Practice for Permanently Installed Control Cables for Use with ANSI E1.11 (DMX512-A) and USITT DMX512/1990 Products.**

It's published! No further news.

## **6.4 ANSI E1.30-3 – 2009 (R2019), EPI 25, Time Reference in ACN Systems Using SNTP and NTP.**

It's published! No further news.

## **6.5 ANSI E1.30-10 – 2009 (R2014), EPI 32, Identification of Draft Device Description Language Modules.**

It's published! No further news.

## **6.6 ANSI E1.33 – 2019, Transport of ANSI E1.20 (RDM) in an E1.31 environment**

It's published.

### **6.6.1 E1.33 Errata**

From Wayne Howell's 06 Oct 2019 email:

E1.33 errata:

Page 119, LLRP COMPONENT\_SCOPE PID defines the get response PDL as 0x54 / 84 decimal. This is a

typo and should read 0x58 / 88.

The consensus was that Richard Nix and Karl Ruling should devise some boiler plate errata form to note the errors or changes that are anticipated. There shall be a link in the document description to go to the errata document. The assumption is that more errors might be found, and they should all be rolled into a revision project.

#### **6.7 BSR E1.37-4 – 201x, Remote Device Management over DMX512 Networks – File Transfer Control with Firmware Upload capabilities**

No news or update.

#### **6.8 BSR E1.37-5 – 201x, General Purpose Messages for ANSI E1.20 RDM**

*See proposed comment resolutions and revised draft standard, BSR\_E1-37-5-201x\_PR3\_CmmntResolutions.pdf and E1-37-5 General Purpose PIDs 2019-10-01.pdf.*

Scott Blair reported. He moved that we approve the comment resolutions. The motion was seconded and then unanimously approved, thus meeting the supermajority approval requirement.

Scott Blair moved that the revised draft E1.37-5 document be offered for public review. The motion was seconded. The motion was approved unanimously.

#### **6.9 BSR E1.59 - 201x, Object Transform Protocol**

Dan Murfin reported that the draft had received about 20 public review comments. The task group is making good progress. Almost all are resolved. The task group is also working on creating sample packets. Maya Nigrosh affirmed Murfin's remarks.

#### **6.10 BSR E1.61 Network Advertisement of Entertainment Protocols**

Jason Potterf reported he is finding that there are problems in the networked audio field that suggests they are having the same network configuration problems. He expects to have a document for the task group by January, with a document for the working group to consider for public review at the April meeting.

#### **6.11 BSR E1.68 Recommended Practice to address DMX512 compliance and interoperability**

Javid Butler reported that there has been progress. Wayne Howell reiterated Butler's remarks. He's been busy with the E1.20, RDM, revision, but a draft should be ready for the CPWG to review in time for the January 2020 meeting.

Bob Goddard remarked that he was unhappy with the relatively low on-line meeting attendance. He is also concerned that he hasn't seen any coherent draft text document.

Bob Goddard, Javid Butler, and Wayne Howell had a conversation about what holes exist in the document. Flow charts for compliance checking seem to be the big lack.

#### **6.12 ANSI E1.17 – 2015 Entertainment Technology - Architecture for Control Networks (ACN) (Revision, reaffirmation, or withdrawal by 21 May 2020)**

Sam Kearney moved that we reaffirm ANSI E1.17-2015. The motion was seconded. The question shall be decided by letter ballot with a concurrent public review.

#### **6.13 ANSI E1.37-2 - 2015, Additional Message Sets for ANSI E1.20 (RDM) – Part 2, IPv4 & DNS Configuration Messages. (Revision, reaffirmation, or withdrawal by 25 September 2020)**

Scott Blair suggested that this probably should be reaffirmed, but that he would preferred to wait until after the next meeting to take action. He asked people to submit comments on items they felt needed to be changed, if they have such suggestions.

#### **6.14 Next Gen Streaming Study Group**

Jason Potterf gave a high-level overview and progress report, saying that they are in motion on drafting outlines.



### **6.15 Next Gen Color study group**

Jason Potterf reported that this project is taking off, and there will be a lot of cross work with the Photometrics Working Group. Mark Primrose said the task group is having a meeting tonight, and many will be at the Photometrics WG meeting tomorrow.

### **6.16 Next Gen Transport study group**

Jason Potterf reported that the study group members have assignments.

### **6.17 Next Gen Fixture study group**

Sam Kearney reported that they have been working on this with great energy. They are working to make fixture libraries that are machine-readable.

### **6.18 Task group leader coordination**

Scott Blair is the official scheduling liaison between the CPWG task groups and Frances Thompson. Anyone needing a physical task group meeting at an upcoming event should contact Scott.

*BSR E1.20 Scott Blair and Wayne Howell*

*BSR E1.37-2 Simon Newton*

*BSR E1.37-4 Peter Willis*

*BSR E1.37-5 Scott Blair and Simon Newton*

*BSR E1.37-6 Simon Newton*

*BSR E1.59 Dan Murfin and Maya Nigrosh*

*E1.37-x Video Walls Scott Blair*

*E1.61 NAEP Jason Potterf and Kevin Loewen*

*E1.68 Javid Butler and Wayne Howell*

*IPv6 Task Group Jason Potterf*

*Next Gen Streaming Study Group Jason Potterf and Maya Nigrosh*

*Plugfest Marketing Task Group Michael Lay*

*NAMM Education Task Group Milton Davis*

*Next Gen Color study group Mark Primrose and Tucker Downs*

*Next Gen Transport study group: Maya Nigrosh and Jason Potterf*

*Next Gen Fixture study group: Sam Kearney and Dan Murfin.*

## **7 New business**

### **7.1 NAMM education**

The current list of NAMM sessions is:

Ethernet Networking For The Mid-Sized Venue (Jon Hole)

Troubleshooting Your DMX512 and RDM Control Network (Milton Davis)

An Introduction to E1.33 RDMnet Running Over Ethernet Networks (Scott Blair)

Tightening DMX512-A Compliance In The Entertainment Industry (Javid Butler)

Mythbusting sACN and Art-Net On Your Lighting Network (Wayne Howell)

Wireless DMX512 Networking For The Lighting Tech (Paul Kleissler)

An Introduction To Show Networking (John Huntington)

Advanced Ethernet Networking For Entertainment Systems (Kevin Loewen)

Michael Lay reported said there is a possibility of rerunning some of these sessions again in July for NATEAC.

### **7.2 General Device Type Format (GDTF) activity in Europe**

Rene Berhorst reported that there is interest in GDTF from the media server world. Companies who have implemented it seem to be happy and it is a better process than what they did before.

Jason Potterf asked if there was an effort to standardize GDTF in Europe. Rene Berhorst replied, Yes, there is an effort that this should be standardized, perhaps through DIN as a DIN Specification. They should know by the end of November if DIN will accept the project. A DIN Specification uses a short-form development process. DIN Specs are free to the end-user, but they do not have the status of a "German Standard."

Hans Lau asked if MA Lighting, Robe, and VectorWorks are working on other standards at this time. “No,” was Berhorst’s answer.

Wayne Howell asked how many libraries have been encoded. Berhorst said there are 20 to 30 made by manufacturers, and then there are additional ones made by end-users.

### **7.3 US Plugfest 2020**

*From the July meeting minutes:*

*July Meetings are unconfirmed but will likely be in New York in conjunction with the NATEAC show. This will impact the July Plugfest, which will probably be moved to October next year.*

*Peter Willis suggested considering a mini plugfest in New York, as it is a good audience. There was discussion about the pros and cons, and the logistics. Michael Lay said they will place this discussion on the Plugfest post-mortem meeting agenda.*

Michael Lay reported that the idea of a mini-plugfest in conjunction with NATEAC fell short because of scheduling concerns. Also, there was a competing request from ESTA management that we provide an educational track in conjunction with the NATEAC conference, and it was felt that our energies were better focused on that initiative as getting people to attend educational sessions would be a better use of our limited resources. Most likely we would re-run some of the 2020 NAMM sessions.

Shawn Silverman asked about having an informal West Coast Plugfest. Javid Butler said he might be able to get space in Las Vegas for some time in early 2020.

### **7.4 European Plugfest**

*The European Plugfest will be held again in Lille France, during the last week of February 2020 (25-27 February).*

Wayne Howell reported. Registration is open at <https://www.plasa.org/plugfest/> Howell said there are space limitations at the French venue, and, given the logistics, the plugfest will probably move back to the UK in 2021.

## **8 Other business and announcements**

### **8.1 NEC update**

Mitch Hefter reported about the 2020 NEC is about to be released, but he complained that it is no longer being offered in PDF format from the NFPA. The only non-hardcopy version is an on-line subscription, which is not accessible without Internet access. Eddie Kramer added that the NFPA has said that they will offer some type of offline format by Summer 2020.

Hefter said that the NFPA will soon be taking submissions for proposed changes to the 2020 edition.

### **8.2 IESNA update**

Bill Ellis said that work is being done on a controls narrative document. It does not have an RP or other alphanumeric assignment yet.

Mitch Hefter reported the following IES activities. In the following list of IES projects, LP means “Lighting Practice” and RP means “Recommended Practice.”

#### **IES – Lighting Control Systems Committee:**

RP-42: Dimming & Control Method Designations

Document has completed the committee re-circulation ballot (IES committee is equivalent to an ESTA Working Group). It’s in process to go out for public review.

LP-6 (a meld of TM-23 & LEM-7): Lighting Control Systems – Properties, Selection and Specification  
It failed the first committee ballot and is being revised

RP-xx: Controls Narrative

Task Group still working on final draft for first committee ballot. Since this is a new document, it may be delayed in order to get existing documents reaffirmed/updated of the launch of IES's On-Line Lighting Library, scheduled for August 2020.

#### **IES Lighting Commissioning Committee:**

LP-8 (formerly DG-29): Commissioning

The document passed the committee circulation ballot; it's in process to go to out for public review.

IES Assembly and Performance Lighting Committee (formerly Theater, Television, and Film Lighting Committee (TTFL) has Bill Ellis as a member.

#### **8.3 Above & Beyond Awards**

Attendees were reminded that information on the Above & Beyond Awards may be found at [http://tsp.esta.org/tsp/news/award\\_recipients.html](http://tsp.esta.org/tsp/news/award_recipients.html). The nomination site is open year round, but nominations for this year, with the award to be given in early 2020, must be submitted by EOD November 1.

#### **8.4 ESTA document link policy**

It was announced that ESTA's Executive Director has asked that people please ensure that web references to ESTA, including links to ESTA's web pages, are current, and use the correct text reference. TSP staff also reminds everyone that they must not direct-link to any ESTA standards document, nor post ESTA standards documents for download, from your website(s). Please link to ESTA's TSP downloads page, found at [https://tsp.esta.org/tsp/documents/published\\_docs.php](https://tsp.esta.org/tsp/documents/published_docs.php).

#### **9 Schedule for future meetings**

The full and current meeting schedule may be found at <http://www.esta.org/ESTA/meetings.php>.

##### **9.1 Winter 2020 meetings (NAMM, Anaheim, CA)**

It was announced that the Winter 2020 meetings will be held in conjunction with the Winter NAMM 2020 show, 15-19 January 2020. The CPWG meeting is scheduled for 09:00 PST, Friday 17 January 2020, at the Wyndham Garden Anaheim.

##### **9.2 Spring 2020 meetings (USITT, Houston, TX)**

The Spring 2020 meetings will be held in conjunction with the USITT conference in Houston, TX, from 01-04 April 2020. The complete schedule has not yet been confirmed.

Mitch Hefter reported that the Conference registration link is now live.

##### **9.3 Summer 2020 meetings (NATEAC, NYC)**

The Summer 2020 meetings will be held in conjunction with the North American Theatre Engineering and Architecture Conference in New York City, 19-20 July 2020. The meeting schedule has not yet been confirmed.

#### **10 Adjournment**

Michael Lay took a moment to recognize this as the last meeting of 2019, and thanked everyone for working so hard, for working so well together this year, solving the problems at hand. This group has a lot of good work to show for their efforts. He then entertained a motion to adjourn.

Scott Blair moved that the meeting adjourn. Hearing no objections, Michael Lay declared the meeting adjourned at 10:35.

Control Protocols Working Group members as of 8 November 2019

Delegate	Company	Representing	Voting status	Int. cat.
Cameron Affleck	English National Opera (ENO)	English National Opera (ENO)	O	U
Christian Allabauer	Christian Allabauer	Christian Allabauer	O	G
Matthew Ardine	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	A	U
Tim Bachman	Altman Stage Lighting	Altman Lighting	O	MP
Nick Ballhorn-Wagner	Electronic Theatre Controls, Inc.	Electronic Theatre Controls, Inc.	O	MP
Robert Barbagallo	Solotech Inc.	Solotech Inc.	O	U
Tom Barthel-Steer	Electronic Theatre Controls, Inc	Electronic Theatre Controls, Inc	O	MP
Paul Beasley	Walt Disney Imagineering	Walt Disney Company	P	U
Robert Bell	Acuity Brands Lighting	Acuity Brands Inc.	A	MP
Marcus Bengtsson	disguise	disguise	O	MP
Justin Bennett	University of the Incarnate Word	University of the Incarnate Word	O	U
Rene Berhorst	MA Lighting Int. GmbH	MA Lighting	P	MP
Andrew Berry	X-Laser	X-Laser	O	MP
Scott M. Blair	Megapixel	Megapixel	P	CP
Eric Bloom	Westview Productions	Westview Productions	P	DR
Jim Bogdanowicz	Kino Flo, Inc.	Kino Flo, Inc.	A	MP
Pete Borchetta	Altman Stage Lighting	Altman Lighting	P	MP
Brent Boulnois	Candela Controls, Inc.	Candela Controls, Inc.	A	DE
Justyn Butler	JBOTS	JBOTS	O	CP
John David (Javid) Butler	HDR Consulting, LLC	HDR Consulting, LLC	P	DE
Ian Campbell	Doug Fleenor Design, Inc.	Doug Fleenor Design, Inc.	A	MP
Jean-Francois Canuel	Spectrum Manufacturing Inc.	A.C. Lighting Ltd.	O	CP
Steve Carlson	High Speed Design, Inc.	High Speed Design, Inc.	O	MP

Control Protocols Working Group members as of 8 November 2019

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Yongzhi Chen	Guangzhou Haoyang Electronic Co., Ltd.	Guangzhou Haoyang Electronic Co., Ltd.	O	CP
Anthony Chiappone	Chauvet Lighting	Chauvet Lighting	O	MP
Martin Chisnall	Martin Chisnall	Martin Chisnall	O	U
Jon Chuchla	Audio Visual Systems, Inc.	Audio Visual Systems, Inc.	O	G
Edward R. Condit	Edward R Condit	Edward R. Condit	O	G
Gareth Conner	Creative Conners, Inc.	Creative Conners, Inc.	O	MP
Fraser Connolly	Obsidian Controls	Obsidian Controls	O	DE
Chris Conti	PRG Lighting	PRG	O	DR
Milton Davis	Doug Fleenor Design, Inc.	Doug Fleenor Design, Inc.	P	MP
Jeremy Day	Lumenpulse Lighting Inc.	Lumenpulse Group	O	MP
Steve Denim	High End Systems	Electronic Theatre Controls, Inc.	O	MP
Larry Dew	W.A. Benjamin Electric Co.	W.A. Benjamin Electric Co.	O	DE
Matthew Dews	Electronic Theatre Controls, Inc.	Electronic Theatre Controls, Inc	O	MP
Matt Didon	ON LX Limited	ON LX Limited	P	CP
Rich Dionne	Dept. of Theatre	Purdue University	O	DE
Tucker Downs	Tucker Downs	Tucker Downs	O	G
Hamish Dumbreck	JESE Ltd.	James Embedded Systems Engineering	O	MP
James Eade	ABTT	ABTT	O	G
Bill Ellis	Candela Controls, Inc.	Candela Controls, Inc.	P	DE
Paul K. Ericson	Sparling	Stantec	O	DE
Trevor Forrest	Helvar Lighting Control	Helvar Lighting Control	O	MP
Mike Garl	Mike Garl Consulting LLC	Mike Garl Consulting LLC	exf	
Robert Goddard	Goddard Design Co.	Goddard Design Co.	P	MP

Control Protocols Working Group members as of 8 November 2019

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Nicolas Goerg	DMG Lumiere	Rosco Laboratories	O	CP
Sean Goossen	LiteGear, Inc.	LiteGear, Inc.	O	MP
Jerry Gorrell	Theatre Safety Programs	Theatre Safety Programs	O	G
Erin Grabe	ESTA	ESTA	exf	G
Matt Halberstadt	Electronic Theatre Controls, Inc	Electronic Theatre Controls, Inc	O	MP
Sean Harding	Port Lighting Systems	Port Lighting Systems	O	G
Nick Harper	Alphabet	Nick Harper	O	G
Robert Haycock	Cal Performances	UC Berkeley	O	U
Mitch Hefter	Mitch Hefter	USITT	P	U
Bill Hewlett	ImageCue LLC	ImageCue LLC	O	MP
Julian Hoare	Tait Towers	Tait Towers Manufacturing LLC	A	MP
Jon Hole	Zero 88	Eaton	P	MP
Jim Holladay	Luxence	Luxence	O	G
Maurits van der Hoorn	Pathway Connectivity	Acuity Brands Inc.	A	MP
Wayne David Howell	Artistic Licence Engineering Ltd.	Artistic Licence Holdings	P	DE
John Huntington	City Tech, Ent Tech Department	I.A.T.S.E. Local 1	A	U
Leroy "Tripp" Oliver, III	Mainstage Theatrical Supply, Inc.	Mainstage Theatrical Supply, Inc.	P	DR
Rob Johnston	Interactive Technologies, Inc.	Interactive Technologies, Inc.	O	MP
John Valus_Jr.	LEX Products	Lex TM3	P	CP
David Kane	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	A	U
Michael Karlsson	LumenRadio AB	LumenRadio AB	P	MP
Sam Kearney	Electronic Theatre Controls, Inc.	Electronic Theatre Controls, Inc.	P	MP
Jonathan Kemble	High End Systems	Electronic Theatre Controls, Inc.	O	MP

Control Protocols Working Group members as of 8 November 2019

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Christopher Kennedy	ChamSys Ltd.	Chauvet Lighting	O	MP
Bill Kirby	Crescit Software, Inc.	Crescit Software, Inc.	O	G
Paul Kleissler	City Theatrical, Inc.	City Theatrical, Inc.	P	MP
Lucas Korytkowski	Rosstech	Insight Lighting	O	MP
Edwin S. Kramer	I.A.T.S.E. Local 1	I.A.T.S.E. Local 1	P	U
Christian Krueger	Blizzard Lighting LLC	Blizzard Lighting LLC	P	MP
Ulrich Kunkel	E3 Engineering & Education for Entertainment GmbH	E3 Engineering & Education for Entertainment GmbH	P	U
Jason Kyle	JPK Systems Ltd.	JPK Systems Ltd.	O	MP
Hans Lau	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	P	U
Michael Lay	Michael Lay	Michael Lay	P	G
Hans Leiter	ETC GmbH	Electronic Theatre Controls, Inc.	O	MP
Jon Lenard	Applied Electronics	Applied Electronics	O	MP
Kevin Loewen	Pathway Connectivity	Acuity Brands Inc.	P	MP
Jim Love	Tait Towers	Tait Towers Manufacturing LLC	P	MP
Rob Love	Rosstech	Insight Lighting	O	MP
Vangelis Manolis	AtlaBase Ltd.	AtlaBase Ltd.	O	CP
David McCulloch	David McCulloch	David McCulloch	O	U
Bill McIntyre	Niscon Inc.	Show Distribution Group, Inc.	P	CP
John Mehlretter	Lehigh Electric Products Co.	Lehigh Electric Products Co.	O	MP
David G. Meschisen	Lumenpulse Lighting	Lumenpulse Group	O	MP
Daniel Murfin	Royal National Theatre	Royal National Theatre	P	U
John Musarra	John Musarra	John Musarra	O	U
Simon Newton	Open Lighting Project	Open Lighting Project	P	G

Control Protocols Working Group members as of 8 November 2019

Delegate	Company	Representing	Voting status	Int. cat.
Maya Nigrosh	Sonos	Sonos	P	MP
Richard J. Nix	ESTA	ESTA	exf	G
Jim Ohrberg	Candela Controls, Inc.	Candela Controls, Inc.	A	DE
Jaxon Patterson	Insight Lighting	Insight Lighting	O	MP
Soren Sterdorff Peglau	Brother, Brother and Sons	Brother, Brother and Sons	O	MP
Jason Potterf	Cisco	Cisco	P	MP
Mark Primrose	Kino Flo, Inc.	Kino Flo, Inc.	P	MP
Gary Pritchard	LSC Lighting Systems (Aust) PTY Ltd	LSC Lighting Systems PTY Ltd	O	MP
Charles Reese	Production Resource Group	Production Resource Group	O	DR
Alan M. Rowe	IATSE Local 728	I.A.T.S.E. Local 728	A	U
Karl G. Ruling	ESTA	ESTA	exf	G
Yngve Sandboe	Sand Network Systems, Inc.	Sand Network Systems, Inc.	O	MP
Nicolai Gubi Schmidt	Nicolai Gubi Schmidt	Nicolai Gubi Schmidt	O	U
Larry Schoeneman	Larry Schoeneman	Larry Schoeneman	I	DE
Ford Sellers	Chauvet Lighting	Chauvet Lighting	O	MP
Shawn Silverman	Lighting Infusion LLC	Lighting Infusion LLC	P	DE
Steve Terry	Electronic Theatre Controls	Electronic Theatre Controls, Inc.	A	MP
Richard Thompson	Electronic Theatre Controls, Ltd	Electronic Theatre Controls, Inc	O	MP
Christopher B. Tilton	About the Stage, LLC	About the Stage, LLC	O	DE
Robert Timmerman	Philips Color Kinetics	Signify	O	MP
Tracy Underhill	Triple C Lighting & Controls	Triple C Lighting & Controls	O	G
Carlo Venturati	Clay Paky S.P.A.	Clay Paky S.P.A.	O	MP
Will Wagner	Carallon Ltd.	Carallon Ltd.	O	MP



Control Protocols Working Group members as of 8 November 2019

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<b>Delegate</b>	<b>Company</b>	<b>Representing</b>	<b>Voting status</b>	<b>Int. cat.</b>
Colin Waters	TMB	TMB	O	DR
Ralph Weber	ENDL Texas	ENDL Texas	O	G
Peter Willis	Howard Eaton Lighting Ltd.	Howard Eaton Lighting Ltd.	P	CP
Loren Wilton	Showman Systems	Showman Systems	O	CP
David Yellin	Sumolight GmbH	Sumolight GmbH	O	MP
Jeong Sik Yoo	Ghost LX	Ghost LX	O	DE

### Voting Status

**Principal** and **alternate** working group members are representatives of the same organization or company on a working group. A voting organization has one principal member and only one vote, regardless of the number of principal and alternate members representing the same organization. An organization may have as many alternate members as it desires. An alternate may vote in place of a principal, but an organization or company has only one vote.

**Individual** working group members are persons of special expertise who are not affiliated with an organization or company having an interest in the work of the group. Each Individual working group member has one vote. An individual member may not have alternates.

An **observer** member is a non-voting member. He or she may not vote, but may participate in discussions at working group meetings or submit written comments on the activities of a working group to a working group.

### Interest category

**Custom-market producer:** a working group interest category, a member of which is a producer of goods in which more than 50% of its product lines are designed and manufactured for specific customers to meet specifications provided by those customers and in which the products provided to different customers are substantially different. The proportion of the product line shall be determined by the relative monetary values of the products at the wholesale level.

**Mass-market producer:** a working group interest category, a member of which is a producer of goods in which more than 50% of the product line is uniform products, designed and manufactured for non-specific customers without modification for any particular customer. The proportion of the product line shall be determined by the relative monetary values of the products at the wholesale level.

**Dealer or rental business:** a working group interest category, a member of which is a company whose major business (more than 50%) is in the reselling or renting of products from several manufacturers to the company's customers.

**User:** a working group interest category, a member of which is a person or company that uses the products that are the subject of a working group, and for whom this use results in a net income that is greater than any income derived from making, selling, or renting the subject products to others. Users for the purposes of this clause shall include educators and product end-users.

**General interest:** a working group interest category, a member of which is a party that is affected by the work of the group but that may not reasonably be considered a custom-market producer, a dealer or rental business, a mass-market producer, or a user of the products that are the subject of the working group. Examples are companies that do such a variety of business in a subject area that no one thing (renting or manufacturing, for example) could be considered over 50% of the business.

**Designer:** a working group interest category, a member of which incorporates the products and services regulated by ESTA standards in their work but is not involved in the production, sale, or distribution of the actual products, nor is regularly employed by those who are involved in the production, sale, or distribution of the actual products.