

**Control Protocols Working Group
Minutes**

17 September 2022
Marriott Westlake and WebEx

Chairpersons:

Michael Lay; Candela Controls, Inc.; A; DR (presiding)
Milton Davis; Doug Fleenor Design; P; MP

Recording secretaries:

Karl Ruling and Richard Nix; ESTA

Attendees:

Andreas Modschiedler; Adam Hall GmbH; O; MP
Andrew Mulkey; Candela Controls, Inc.; A; DR
Chris Kennedy; Chauvet Lighting; O; MP
Daniel Lupfer; Dr. Phillips Performing Arts Center; P; U
Daniel Murfin; Tait Towers Manufacturing LLC; P; MP
Eric Bloom; Westview Productions; P; DR
Hans Lau; I.A.T.S.E. Local 728; P; U
Jason Potterf; Cisco; P; MP
Jeremy Powell; Vectorworks, Inc; P; CP
John David (Javid) Butler; HDR Consulting LLC; P; DE
Jon Hole; Signify; P; MP
Jonathan Kemble; Jonathan Kemble ; O; G
Karl G. Ruling; ESTA; exf; G
Larry Dew; W.A. Benjamin Electric Co.; P; DE
Mark Primrose; CHAUVET & Sons Inc.; P; MP
Matthew Ardine; I.A.T.S.E. Local 728; A; U
Maya Nigrosh; Sonos; P; MP
Michael Karlsson; LumenRadio AB; P; MP
Michael Lay; Candela Controls, Inc; A; DR
Milton Davis; Doug Fleenor Design, Inc.; P; MP
Mitch Hefter; USITT; P; U
Paul Beasley; Walt Disney Company; P; U
Paul Kleissler; City Theatrical, Inc.; P; MP
Peter Willis; Howard Eaton Lighting Ltd.; P; CP
Richard J. Nix; ESTA; exf; G
Richard Thompson; Electronic Theatre Controls, Inc; O; MP
Robert Goddard; Goddard Design Co.; P; MP
Sam Kearney; Tait Towers Manufacturing LLC; A; MP
Scott M. Blair; Megapixel; P; CP
Scott Tusing; Angry Otter Lighting, LLC; O; U
Shawn Silverman; Lighting Infusion LLC; P; DE
Stijn Geysen; Luminex Lighting Control Equipment; P; MP
Thierry Dupont; Robert Juliat; P; MP
Ulrich Kunkel; E3 Engineering & Education for Entertainment GmbH; P; U

Vangelis Manolis; AtlaBase Ltd.; O; CP
Wayne David Howell; Artistic Licence Holdings; P; DE

Visitors:

Andrew Smith; Vari-Lite
Edward Smith; Signify
Matthias Hinrichs; Elation
Red Walter; ADS Group
Sandy Gilzow; Shur-Rig
Zhiguang Luang; Guangzhou Haoyang Electronic Co., Ltd.

1 Opening remarks

Michael Lay called the meeting to order at 9:04. He thanked everyone for taking time to attend today. He said Milton Davis, the co-chair, will be proctoring WebEx.

2 Anti-trust and patent statements

2.1 Reading of the anti-trust statement

Michael Lay read the following statement aloud to the assembly:

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 for all to see. No anti-trust, restraint of trade concerns were raised.

2.2 Reading of the call for patents

Michael Lay read the following statement aloud to the assembly:

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

Michael Lay read the following statement aloud to the assembly:

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

Those present in the room introduced themselves. Then Milton Davis read the WebEx attendee names and those on-line introduced themselves.

3.3 Determination of a quorum

Michael Lay reported that we have a quorum and more than 50% of the voting membership present. Business can be conducted and motions requiring a supermajority can be passed.

3.4 Processing of new membership and status change requests

3.4.1 New applications

The following applications had been received asking for the indicated voting status:

Marcus Bengtsson; Original Syndicate; Principal; U (not present)
Andreas Modschiedler; Adam Hall GmbH; Observer; MP
Scott Tusing; Angry Otter Lighting, LLC; Observer; U
Tracy S. Fitch; Electronic Theatre Controls, Inc.; Observer; MP
Daniel Lupfer; Dr. Phillips Performing Arts Center; Principal; User
David Gooch; Chauvet Lighting; O; MP
Kevin Linzey; Vectorworks; Alternate; CP

Note that Tom Barthel-Steer has submitted a new application as an observer member, but the only change is a name change to Tom Steer.

Scott Blair moved to accept the applications, but that anyone applying as a Principal who is not present be approved as an Observer. The motion was seconded, and carried without objection or abstention.

3.4.2 Changes to Observer status due to lack of attendance

The following voting members have missed the last two meetings and will be moved to observer status if this meeting is also missed:

Jake Rhodes and Pete Borchetta; Altman Lighting; MP
Ali Alnajjar; Carallon Ltd.; MP
Al DeMayo; LiteGear, Ltd.; MP

None were present. They all were moved to Observer status.

3.4.3 Changes to Observer status due to missed letter ballots

None as of 30 August 2022.

3.4.4 Consensus body

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
Wayne David Howell	Artistic Licence Holdings	P	DE
Bill Ellis	Candela Controls, Inc.	P	DR
Jim Ohrberg	Candela Controls, Inc.	A	DR
Michael Lay	Candela Controls, Inc	A	DR
Andrew Mulkey	Candela Controls, Inc.	A	DR
Mark Primrose	CHAUVET & Sons Inc.	P	MP
Jim Bogdanowicz	CHAUVET & Sons Inc.	A	MP
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
Daniel Lupfer	Dr. Phillips Performing Arts Center	P	U
Ulrich Kunkel	E3 Engineering & Education for Entertainment GmbH	P	U
Steve Terry	Electronic Theatre Controls, Inc.	A	MP
Michael Lichter	Electronic Theatre Controls, Inc.	A	MP
Robert Goddard	Goddard Design Co.	P	MP
Liang Zhiguang	Guangzhou Haoyang Electronic Co., Ltd.	P	CP
John David (Javid) Butler	HDR Consulting LLC	P	DE

Delegate	Representing	Voting status	Int. cat.
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
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
Dennis Armijo	Insight Lighting	A	MP
John Valus Jr.	Lex TM3	P	CP
Shawn Silverman	Lighting Infusion LLC	P	DE
Michael Karlsson	LumenRadio AB	P	MP
Stijn Geysen	Luminex Lighting Control Equipment	P	MP
Rene Berhorst	MA Lighting	P	MP
Leroy "Tripp" Oliver, III	Mainstage Theatrical Supply, Inc.	P	DR
Scott M. Blair	Megapixel	P	CP
Matt Didon	ON LX Limited	P	CP
Gary Douglas	Phospec Industries, Inc.	P	MP
Thierry Dupont	Robert Juliat	P	MP
Bill McIntyre	Show Distribution Group, Inc.	P	CP
Jon Hole	Signify	P	MP
Maya Nigrosh	Sonos	P	MP
Daniel Murfin	Tait Towers Manufacturing LLC	P	MP
Jim Love	Tait Towers Manufacturing LLC	A	MP
Julian Hoare	Tait Towers Manufacturing LLC	A	MP
Sam Kearney	Tait Towers Manufacturing LLC	A	MP
Mitch Hefter	USITT	P	U
Jeremy Powell	Vectorworks, Inc	P	CP
Kevin Linzey	Vectorworks, Inc	A	CP
Larry Dew	W.A. Benjamin Electric Co.	P	DE
Paul Beasley	Walt Disney Company	P	U
Eric Bloom	Westview Productions	P	DR

Delegate	Representing	Voting status	Int. cat.
	Total votes possible	34	
	Votes by interest category	7	CP
		4	DE
		3	DR
		14	MP
		6	U
		0	G

Voting status key: P = Principal voter; A = Alternate voter; I = Individual voter
Interest category key: CP = Custom-market Producer; DE = Designer; DR = Dealer or Rental company; MP = Mass-market Producer; U = User; G = General interest

4 Approval of the minutes from the last meeting

See CPmin06-2022r1_DRAFT.pdf

Mitch Hefter moved to approve the minutes. The motion was seconded and carried without objection, and three abstentions (Peter Willis, Maya Nigrosh, Paul Beasley)

5 Approval of agenda

Javid Butler said that he had a presentation to add under “Other business and announcements.”

Scott Blair moved to approve the agenda as amended. The motion was seconded and carried without objection, and with one abstention (Bob Goddard).

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 (R2021), 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 20 May 2026)

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 (R2020) Entertainment Technology - Architecture for Control Networks (ACN) (Revision, reaffirmation, or withdrawal by 23 March 2025)

*BSR E1.20 - 20xx, Remote Device Management over USITT DMX512. (In public review cycle)

ANSI E1.27-1 – 2006 (R20121), Entertainment Technology - Standard for Portable Control Cables for Use with USITT DMX512/1990 and E1.11 (DMX512-A) Products. (Revision, reaffirmation or withdrawal by 20 May 2026)

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 20 May 2026)

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 (R2021), EPI 26, Device Description Language (DDL) Extensions for DMX512 and E1.31 Devices. (Revision, reaffirmation, or withdrawal by 27 May 2026)

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 (R2021), Additional Message Sets for ANSI E1.20 (RDM) – Part 2, IPv4 & DNS Configuration Messages. (Revision, reaffirmation, or withdrawal by 24 June 2026)

*BSR E1.37-4 – 201x, Remote Device Management over DMX512 Networks – File Transfer Control with Firmware Upload capabilities.(currently in comment resolution cycle from first public review in 2018)

*BSR E1.37-5 – 20xx, General Purpose Messages for ANSI E1.20 RDM (currently in 5th public review comment resolution)

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 withdrawal by 04 May 2024)

*BSR E1.59, Object Transform Protocol (Published 28 January 2021. Now in revision.)

*BSR E1.68, Recommended Practice to address DMX512 compliance and interoperability (now in comment resolution)

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

Wayne Howell/Scott Blair. From the draft June meeting minutes:

Michael Lay read an email progress report sent by Wayne Howell: “We have finished public comment resolution. We are now finalising edits to the document for a final proofing round and hope to have everything done for the next CPWG.”

Karl Ruling reported that the standard has been administratively withdrawn by ANSI. ANSI's Essential Requirements require a standard be revised or reaffirmed no later than ten years after its approval by ANSI. It's now more than eleven years since that date, so ANSI has withdrawn its ANSI designation. We can continue to offer the standard with “ANSI” on its cover, but we can no longer promote it as an American National Standard.

Wayne Howell had submitted a set of draft comment resolutions. (E1-20_Review 3.1 resolution.pdf) and a revised standard. Wayne Howell moved to accept the proposed comment resolutions. There was discussion about the document delivery time. The motion was seconded, and carried without objection and with three abstentions (Mitch Hefter, Peter Willis, Bob Goddard). This was the required supermajority approval.

Wayne Howell had submitted a revised draft standard. (BSR_E1-20_201x-6 302 Final.pdf) Howell moved to approve the revised draft standard for public review. The motion was seconded, and carried without objection or abstention. A BSR8 will be filed with ANSI.

6.3 ANSI E1.37-1 – 2012 (R2017), Additional Message Sets for ANSI E1.20, Remote Device Management.

See E1-37-1_PubRevwCmmntSummary.pdf and BSRE1-37-1_Smmry_r1_WG_Ltr_Ballot_Reaffrm.pdf.

The reaffirmation public review returned responses from one commenter who thought the standard was good but could be better. The letter ballot was overwhelmingly for reaffirming the standard, but there was one “No” vote. The reason for the No was that the working group should address the public review comments. ANSI procedures require us to draft a response to the public review comments. An attempt must be made to respond to the reasons for the No vote.

Scott Blair reported. He said the suggested changes might be useful in future revisions of this document, but advised to not make the change the changes now, and to wait until E1.20 is finalized before incorporating the changes.

There was discussion about how to address the PR comments and Peter Willis's objection on the letter ballot saying we should consider the comments.

In discussion it was decided that the appropriate comment resolution should be:

“Thank you for saying the document is good but could be better. Certainly the document could be clarified, but we do not wish to change the document at this time while E1.20 is being revised. Changes to E1.20 will affect this document. Your comments will be held for consideration when we finish the E1.20 revision and reconsider this document.”

Scott Blair moved to accept this comment resolution. The motion was seconded and then approves unanimously, which was a supermajority.

The consensus in discussion was that the resolution to Peter Willis's negative vote shall be that that the comments have been considered and a response has been adopted. Peter Willis said that he is satisfied with this resolution. His negative vote was resolved.

6.4 BSR E1.37-4, Remote Device Management over DMX512 Networks – File Transfer Control with Firmware Upload capabilities

Progress report, Paul Beasley or Larry Dew.

Larry Dew said they have been waiting for the E1.20 work to be completed so they can have the meeting time slot, since most of the task group members are on both groups.

6.5 BSR E1.37-5, General Purpose Messages for ANSI E1.20 RDM

Maya Nigrosh/Scott Blair. From the draft June meeting minutes:

Scott Blair reported that Maya had taken over the heavy lifting with Shawn Silverman to address the JSON-related comments. Their goal is to have it ready for public review along with E1.20 (September).

Scott Blair thanked Maya, Shawn, et alia for helping get the draft across the finish lines. The comment resolutions have been distributed, so he moved to approve the public review comment draft resolutions. (CP_2022-1012_E1-37-5_resols_by_Comment #.pdf)

The motion carried without objection with one abstention (Peter Willis). This was approval by a supermajority

Scott Blair moved to approve the revised draft (E1-37-5 General Purpose PIDs r30 2022-09-01.pdf) for another public review. The motion was seconded and carried without objection or abstention. ESTA staff will file a BSR8 for public review with ANSI.

6.6 BSR E1.37-8, Additional Message Sets for ANSI E1.20 (RDM) – IPv6 & Improved IPv4 Configuration Messages.

Scott Blair/Dan Murfin.

Scott Blair reported that they've had productive meetings. The task group has an outline and lots of notes, which now need to be converted into a formal document.

6.7 BSR E1.68 Recommended Practice to address DMX512 compliance and interoperability

Javid Butler/Wayne Howell.

Public review resolution progress report. See E1-68_PR_CommentSummary.pdf for the comments.

Javid Butler reported they have been working on the resolutions to the comments. They have been using the plugfest to validate the tests, and have already found issues with some of the manufacturer's fixtures. They plan to have resolutions completed in time for January's meeting.

6.8 BSR E1.63 Network Advertisement of Entertainment Protocols

Jason Potterf/Kevin Loewen.

Jason reported there are problems with trying to pack lots of data in a packet. It winds up being too much data for one packet and multiple packets are not allowed. IEE is aware of this problem, and is working on it.

6.9 BSR E1.73, Next Generation Entertainment Control Model: Uniform Device Representation (UDR)

Dan Murfin/Sam Kearney: progress report.

Dan Murfin gave a progress report, and shared his screen to show the UDR Core Objects:

- Scalar Item (number, string, binary, boolean, UUID, intensity)
- Structured Item. complex structured data (JSON. e.g. stick models)
- Streaming Structured Item. packed scalar items for streaming (JSON. e.g. DMX mapping)
- Bulk Item. binary data (various, e.g. an image)

Sam Kearney shared his screen and showed an example of how a device ("myDevice") could be described. It has a user interface with drop-down menus, and then the data is exported as

a JSON file. He described it as very basic. The UDR builder is available at <https://skearney.gitlab.io/udr-builder/>, with more files about it at <https://gitlab.com/skearney/udr-builder>.

Scott Blair spoke in favor of the approach taken. It allows expansion of features and new models into the future, but it also is easy to use in a DMX512 environment. We can't jump into the future alone. We have to make it easy for the industry to follow along.

6.10 Next Gen Study Group (Overall) and Next Gen Transport study group

Jason Potterf/Maya Nigrosh.

Jason Potterf reported that the UDR work has come to a point where we can think about what needs to be transported, thus making discussions more concrete.

Jason Potterf said they are discussing a brokered protocol versus a peer to peer architecture. Does anyone have an opinion to offer? The task group has a meeting today at 14:00. He invited interested parties to drop in to participate in discussion. He said their plan is to release incremental modules.

6.11 BSR E1.77, Secure Authentication for ESTA Streaming Protocols

Kevin Loewen/Paul Beasley: progress report.

Paul Beasley reported that there has been no progress. Kevin Loewen has been very busy with his job.

6.12 BSR E1.59 - 2021, Object Transform Protocol

Dan Murfin and Maya Nigrosh.

Progress report. See the new version E1-59 OTP 2022-08-09.pdf and E1-59 OTP Diff 2022-08-09.pdf.

Dan Murfin reported that they have new modules that are primarily to transport camera-related data. They may not have provided fields for everything that could be captured, but they have the major ones.

He moved to offer the draft standard for public review. Seconded. No further discussion. Approved with no opposition and no abstentions. (The TSC approved the public review at their meeting the next day.)

6.13 Task group leader coordination

*Scott Blair is the official scheduling liaison for meetings between the CPWG task groups and meeting schedulers. Laura Hoepker (laura.hoepker@esta.org) handles face-to-face meetings when we meet at an ESTA event. Richard Nix handles meetings scheduled using ESTA's WebEx account—**only** ESTA's WebEx account. Task groups are free to use their own WebEx accounts, Zoom, Teams, Meet, or something else.*

BSR E1.20: Scott Blair and Wayne Howell

E1.37-x: Video Walls Scott Blair

BSR E1.37-4: Paul Beasley and Larry Dew

BSR E1.37-5: Maya Nigrosh/Scott Blair

*BSR E1.37-8 Scott Blair and Dan Murfin
BSR E1.59: Dan Murfin and Maya Nigrosh
E1.61 NAEP: Jason Potterf and Kevin Loewen
E1.68: Javid Butler and Wayne Howell
E1.73: Dan Murfin and Sam Kearney
Next Gen Study Group: Jason Potterf and Maya Nigrosh
Plugfest Marketing Task Group: Michael Lay
NAMM Education Task Group: Milton Davis
Next Gen Transport study group: Maya Nigrosh and Jason Potterf
Protocol Security study group: Kevin Loewen and Paul Beasley
GitHub study group: Jason Potterf*

7 New business

8 Other business and announcements

8.1 Fighting childhood cancer

Javid Butler reported that he is shaving his head today in support of the fight against childhood cancer sponsored by St. Baldrick's Foundation. Go to <https://www.stbaldricks.org/> and search for Javid Butler to sponsor him.

8.2 National Electrical Code (NEC) update

Jason Potterf, Mitch Hefter and Bill Ellis

Mitch Hefter reported the 2023 NEC went live on-line on September 7, 2022. The printed version will be available in October.

Jason Potterf reported that there is interest in requiring cybersecurity of networks in the NEC, which is a rather blunt tool, but he feels the NFPA does not want to be seen as doing nothing on the matter.

Class 4 wiring is now in the Code, reported Potterf, but there are problems with Class 4 and AFCI breakers, so it can't be used in residential wiring.

8.2 Illuminating Engineering Society (IES) update

Bill Ellis and Mitch Hefter

Mitch Hefter reported that he is now the chair of the IES Lighting Control Systems Committee. IES LP-16 Lighting Practice – Documenting Control Intent Narratives and Sequence of Operation has been published as an ANSI standard. The Committee is working on updating LP-6-2020 – Lighting Control Systems – Properties, Selection, and Specification.

The Commissioning Committee is working on an updated to LP-8-2020 – The Commissioning Process Applied to Lighting and Control Systems

8.3 Institute of Electrical and Electronics Engineers (IEEE) update

Jason Potterf

Potterf reported on single-pair digital communications. He said Steve Carlson sends his regards; he is very active in this project.

Single-pair multi-drop with power: It was changed to providing a minimal amount of power for communication. High power requirements would be handled on other conductors in the cable. This means that handling multiple nodes—32 nodes is the goal—is more likely to be achievable.

Paul Beasley said that what is being described (data and power on one cable but not the same wires) is exactly what the industry has been using for color changer control and power for decades, e.g, TMB PCCCT. Jason Potterf agreed.

Potterf says the IEEE committee needs cable models. He put out a call for any single-pair cable that is being used widely in our industry so that it can be considered. Manufacturer and model number please.

8.4 National Electrical Manufacturer Association (NEMA) update

Paul Beasley and Mitch Hefter

NEMA C137.6 is the standard relevant to the CPWG. No news, but C137.6 shall be listed in the minutes and future agendas.

8.5 Society of Motion Picture and Television Engineers (SMPTE) *Rapid Industry Solutions*

Scott Blair and Marcus Bengtsson report

Scott Blair reported on the explosion of virtual productions, shows that incorporate LED video screens with live camera work so the virtual scenery and effects are done in camera rather than in post production. This industry is seeing a need for recording of every bit of camera metadata so it can be used in post-production or fed back into scenes shot in virtual production.

There is also work being done on evaluating and measuring LED screen characteristics. What needs to be measured to evaluate the suitability of screens for virtual production.

8.6 Plugfests

8.6.1 Europe

Petrer Willis reported that the next one will be in Lille France, 7-9 March 2023. Register on the PLASA website. <https://www.plasa.org/plugfest/>

There was discussion of hybrid sessions (live and in-person), particularly of the educational presentations. Peter Willis said that the time zones are a problem. Scott Blair suggested that they can be record the sessions and then post the videos.

8.6.2 USA

Scott Blair reported an amazing turnout for this plugfest, happening at this time. Strong showing from Elation and American DJ. It's been extremely successful with a lot of first-timers.

Milton Davis reported seeing NO borders between companies. None. They are working together. Wonderful collegiality.

Wayne Howell reported that for the first time things plugged together and fundamentally worked. There are some small glitches, but there have been few or no total failures.

Eric Johnson is managing the room, said Michael Lay. He suggested that people thank him. He works hard.

People suggested that we need a bigger time window so meetings don't have to be right on top of the Plugfest. There was discussion of having a Plugfest that is not tied to meetings.

Javid Butler reported that he'd invited a architectural lighting manufacturer to the Plugfest, and that manufacturer's representative said it was exactly what he needed to see.

Jason Potterf suggested that we abolish night meetings in general. They are hard for people who are jet-lagged, and they are impossible for people in Europe to attend.

There was further discussion of expanding the time span of CPWG meetings and events, and the value of meeting face-to-face. People found the latter invaluable.

8.7 Above & Beyond Awards

Attendees were reminded that information on the Above & Beyond Awards is available at http://tsp.esta.org/tsp/news/award_recipients.html.

9 Schedule for future meetings

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

Michael Lay reported that the Winter TSP meetings will be held by WebEx the week of January 16, 2023. Michael Lay said that this means documents for the meeting should be ready before the Holidays. The following meeting will be at NAMM in April, not at USITT. Meetings past that have not been decided.

10 Adjournment

It was requested that the reflector lists be included in the minutes. They weren't this last set. Staff agreed to include them.

Michael Lay thanked all the members for working together so collegially. He thanked ESTA staff.

With no further business to conduct, Michael Lay declared the meeting adjourned at 11:45 CDT, 12:45 EDT.

Control Protocols Working Group members and contact information as of 03 October 2022

Delegate	Representing	Voting status	Int. cat.
Cameron Affleck	Cameron Affleck	O	U
Christian Allabauer	Christian Allabauer	O	G
Ali Alnajjar	Carallon Ltd.	O	MP
Matthew Ardine	I.A.T.S.E. Local 728	A	U
Dennis Armijo	Insight Lighting	A	MP
Benjamin Eagen Arrigo	Benjamin Eagen Arrigo	O	U
Nick Ballhorn-Wagner	Electronic Theatre Controls, Inc.	O	MP
Robert Barbagallo	Solotech Inc.	O	U
Paul Beasley	Walt Disney Company	P	U
Robert Bell	Acuity Brands Inc.	A	MP
Marcus Bengtsson	Original Syndicate	O	U
Justin Bennett	University of the Incarnate Word	O	U
Rene Berhorst	MA Lighting	P	MP
Andrew Berry	X-Laser	O	MP
Scott M. Blair	Megapixel	P	CP
Eric Bloom	Westview Productions	P	DR
Jim Bogdanowicz	CHAUVET & Sons Inc.	A	MP
Pete Borchetta	Altman Lighting	O	MP
Justyn Butler	JBOTS	O	CP
John David (Javid) Butler	HDR Consulting LLC	P	DE
Ian Campbell	Doug Fleenor Design, Inc.	A	MP
Jean-Francois Canuel	A.C. Lighting Ltd.	O	CP
Steve Carlson	High Speed Design, Inc.	O	MP
Yongzhi Chen	Guangzhou Haoyang Electronic Co., Ltd.	O	CP

Control Protocols Working Group members and contact information as of 03 October 2022

Delegate	Representing	Voting status	Int. cat.
Anthony Chiappone	Chauvet Lighting	O	MP
Martin Chisnall	Martin Chisnall	O	U
Jon Chuchla	Audio Visual Systems, Inc.	O	G
Gareth Conner	Creative Conners, Inc.	O	MP
Chris Conti	PRG	O	DR
Milton Davis	Doug Fleenor Design, Inc.	P	MP
Jeremy Day	Lumenpulse Group	O	MP
Al DeMayo	LiteGear, Inc.	O	MP
Steve Denim	Electronic Theatre Controls, Inc.	O	MP
Larry Dew	W.A. Benjamin Electric Co.	P	DE
Matthew Dews	Matthew Dews	O	MP
Matt Didon	ON LX Limited	P	CP
Rich Dionne	Purdue University	O	DE
Gary Douglas	Phospec Industries, Inc.	P	MP
Tucker Downs	ROE Visual USA	O	MP
Hamish Dumbreck	James Embedded Systems Engineering	O	MP
Thierry Dupont	Robert Juliat	P	MP
James Eade	ABTT	O	G
Bill Ellis	Candela Controls, Inc.	P	DR
Paul K. Ericson	Stantec	O	DE
Tracy S. Fitch	Electronic Theatre Controls, Inc.	O	MP
Trevor Forrest	Helvar Lighting Control	O	MP
Harrison Freni	Infinitus Lux, LLC	O	U
Mike Garl	Mike Garl Consulting LLC	exf	
Stijn Geysen	Luminex Lighting Control Equipment	P	MP

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Robert Goddard	Goddard Design Co.	P	MP
Nicolas Goerg	Rosco Laboratories	O	CP
David Gooch	Chauvet Lighting	O	MP
Sean Goossen	LiteGear, Inc.	O	MP
Jerry Gorrell	Theatre Safety Programs	O	G
Erin Grabe	ESTA	exf	G
Matt Halberstadt	Electronic Theatre Controls, Inc	O	MP
Sean Harding	Port Lighting Systems	O	G
Nick Harper	Nick Harper	O	G
Robert Haycock	Robert Haycock	O	U
Mitch Hefter	USITT	P	U
Julian Hoare	Tait Towers Manufacturing LLC	A	MP
Jon Hole	Signify	P	MP
Maurits van der Hoorn	Acuity Brands Inc.	A	MP
Wayne David Howell	Artistic Licence Holdings	P	DE
John Huntington	I.A.T.S.E. Local 1	A	U
Leroy "Tripp" Oliver, III	Mainstage Theatrical Supply, Inc.	P	DR
Quinten James	QtoCue Lighting Design	O	U
Eric Johnson	Eric Johnson	O	G
Rob Johnston	Interactive Technologies, Inc.	O	MP
John Valus Jr.	Lex TM3	P	CP
David Kane	I.A.T.S.E. Local 728	A	U
Michael Karlsson	LumenRadio AB	P	MP
Sam Kearney	Tait Towers Manufacturing LLC	A	MP
Jonathan Kemble	Jonathan Kemble	O	G

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Chris Kennedy	Chauvet Lighting	O	MP
Bill Kirby	Crescit Software, Inc.	O	G
Paul Kleissler	City Theatrical, Inc.	P	MP
Lucas Korytkowski	Insight Lighting	O	MP
Edwin S. Kramer	I.A.T.S.E. Local 1	P	U
Christian Krueger	Blizzard Lighting LLC	O	MP
Ulrich Kunkel	E3 Engineering & Education for Entertainment GmbH	P	U
Jason Kyle	JPK Systems Ltd.	O	MP
Hans Lau	I.A.T.S.E. Local 728	P	U
Michael Lay	Candela Controls, Inc	A	DR
Hans Leiter	Electronic Theatre Controls, Inc.	O	MP
Jon Lenard	Applied Electronics	O	MP
Michael Lichter	Electronic Theatre Controls, Inc.	A	MP
Kevin Linzey	Vectorworks, Inc	A	CP
Kevin Loewen	Acuity Brands Inc.	P	MP
Jim Love	Tait Towers Manufacturing LLC	A	MP
Rob Love	Insight Lighting	O	MP
Daniel Lupfer	Dr. Phillips Performing Arts Center	P	U
Vangelis Manolis	AtlaBase Ltd.	O	CP
Kevin Matz	Company 235, LLC	O	U
David McCulloch	David McCulloch	O	U
Bill McIntyre	Show Distribution Group, Inc.	P	CP
John Mehlretter	Lehigh Electric Products Co.	O	MP
Andreas Modschiedler	Adam Hall GmbH	O	MP
Andrew Mulkey	Candela Controls, Inc.	A	DR

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John Musarra	John Musarra	O	U
Maya Nigrosh	Sonos	P	MP
Richard J. Nix	ESTA	exf	G
Jim Ohrberg	Candela Controls, Inc.	A	DR
Jaxon Patterson	Insight Lighting	O	MP
Soren Sterdorff Peglau	Brother, Brother and Sons	O	MP
Jason Potterf	Cisco	P	MP
Jeremy Powell	Vectorworks, Inc	P	CP
Mark Primrose	CHAUVET & Sons Inc.	P	MP
Gary Pritchard	LSC Control Systems Pty Ltd	O	MP
Charles Reese	Production Resource Group	O	DR
Jake Rhodes	Altman Lighting	O	MP
Alan M. Rowe	I.A.T.S.E. Local 728	A	U
Karl G. Ruling	ESTA	exf	G
Yngve Sandboe	Sand Network Systems, Inc.	O	MP
Jessica Sanders	Villain Lighting LLC	O	U
Nicolai Gubi Schmidt	Nicolai Gubi Schmidt	O	U
Ford Sellers	Chauvet Lighting	O	MP
Shawn Silverman	Lighting Infusion LLC	P	DE
Sam Smallman	Artificers	O	CP
Tom Steer	Electronic Theatre Controls, Inc	O	MP
Bart Swinnen	Luminex Lighting Control Equipment	O	MP
Steve Terry	Electronic Theatre Controls, Inc.	A	MP
Richard Thompson	Electronic Theatre Controls, Inc	O	MP

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Robert Timmerman	Signify	O	MP
Scott Tusing	Angry Otter Lighting, LLC	O	U
Tracy Underhill	Triple C Lighting & Controls	O	G
Carlo Venturati	Clay Paky S.P.A.	O	MP
Will Wagner	Carallon Ltd.	O	MP
Colin Waters	TMB	O	DR
Ralph Weber	ENDL Texas	O	G
Peter Willis	Howard Eaton Lighting Ltd.	P	CP
Loren Wilton	Showman Systems	O	CP
Sebastian Wissmann	Inoage GmbH	O	MP
Vincent Worley	The Light Source Inc.	wtg	MP
David Yellin	Sumolight GmbH	O	MP
Jeong Sik Yoo	Ghost LX	O	DE
Liang Zhiguang	Guangzhou Haoyang Electronic Co., Ltd.	P	CP

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