

Minutes
Control Protocols Working Group
Saturday 07 October 2023
Marriott D/FW Westlake, Westlake, TX

Chairpersons:

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

Recording Secretaries:

Richard Nix and Erin Grabe (ESTA)

Attendees:

Dennis Armijo; Insight Lighting; A; MP
Seb Barresi; Royal National Theatre; O; U
Rene Berhorst; MA Lighting; P; MP
Scott M. Blair; Megapixel; P; CP
Eric Bloom; Westview Productions; P; DR
Florian Burtcher; Neutrik AG; A; MP
John David (Javid) Butler; HDR Consulting LLC; P; DE
David Butler; Pixsper; P; U
Kenny Cohen; Lightwright LLC; A; MP
Larry Dew; W.A. Benjamin Electric Co.; P; DE
Shepherd Dick; Image Engineering; P; CP
Tom Drozd; Encore Global; O; DR
Thierry Dupont; Robert Juliat; P; MP
Bill Ellis; Candela Controls, Inc.; P; DR
Tracy S. Fitch; Electronic Theatre Controls, Inc.; P; MP
Stijn Geysen; Luminex Lighting Control Equipment; P; MP
David Gooch; Chauvet Lighting; O; MP
Andrew Grant; Royal National Theatre; O; U
Mitch Hefter; USITT; P; U
Jon Hole; Signify; P; MP
Wayne David Howell; Robe Lighting s.r.o.; P; MP
John Huntington; I.A.T.S.E. Local 1; A; U
Joe Izzard; Royal National Theatre; P; U
Michael Karlsson; LumenRadio AB; P; MP
Sam Kearney; Tait Towers Manufacturing LLC; A; MP
Chris Kennedy; Chauvet Lighting; O; MP
Paul Kleissler; Environmental Lights; P; MP
Terry Kuhn; Terry Kuhn; O; U
Hans Lau; I.A.T.S.E. Local 728; P; U
Vangelis Manolis; AtlaBase Ltd.; O; CP
Andreas Modschiedler; Adam Hall GmbH; O; MP
Sam Molitoriss; Lightwright LLC; P; MP
Andrew Mulkey; Candela Controls, Inc.; A; DR
Daniel Murfin; Tait Towers Manufacturing LLC; P; MP
Maya Nigrosh; Sonos; P; MP
Jason Potterf; Cisco; P; MP
Dietmar Rottinghaus; Neutrik AG; P; MP
Lukas Runge; Lukas Runge Veranstaltungstechnik; P; U
Nick Saiki; ADJ Products, LLC; P; MP
Ford Sellers; Chauvet Lighting; O; MP
Shawn Silverman; Lighting Infusion LLC; P; DE
Steve Terry; Electronic Theatre Controls, Inc.; A; MP
Richard Thompson; Electronic Theatre Controls, Inc; O; MP
Red Walter; ADJ Products, LLC; A; MP
Peter Willis; Howard Eaton Lighting Ltd.; P; CP
Vincent Worley; The Light Source Inc.; P; MP
Liang Zhiguang; Guangzhou Haoyang Electronic Co., Ltd.; P; CP

Visitors:

Noel Ortiz, Chauvet & Sons Inc
Michael Giardina; ADJ Products, LLC; A; MP

1 Opening remarks

Milton Davis called the meeting to order at 9:16am CT, welcoming everyone to the CPWG fall meeting, and thanking them for taking time to attend. He reminded everyone in the room that there are microphones nearby, so please avoid drumming on table, or other similar extraneous noise. He reminded online attendees to mute their microphones when not speaking. He also reminded everyone about the possibility of a recess, with a reconvening meeting if all agenda items are not completed today.

2 Anti-trust and patent statements**2.1 Reading of the anti-trust statement**

Milton Davis 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.

Nothing was reported.

2.2 Reading of the call for patents

Milton Davis 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

Everyone introduced themselves, starting with in-person attendees, finishing with online attendees.

3.1 Requirements for membership

Milton Davis 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. New applications shall not be processed until the TSP fee has been paid. 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 introduced themselves, first in-person, then online.

3.3 Determination of a quorum

There are currently 40 voting members. A quorum is 14, and a supermajority is 21.

Milton Davis confirmed that a supermajority was present.

3.4 Processing of new membership and status change requests

3.4.1 New applications

Lukas Runge; Lukas Runge Veranstaltungstechnik; P; U (new application, applied as Individual but represents a company)
David Butler; Pixsper; P; U (new application, applied as Individual, but represents a company)
Terry L. Kuhn; Terry Kuhn; O; U (new application)
Bev Aurora Fremin; Bev Fremin; O; U (new application)
Paul Kleissler; Environmental Lights; P; MP (change of representation)
Adam Seidman; Environmental Lights; A; MP (change of representation)
Seb Baressi; Royal National Theatre; O; U (new application)
Chris Kennedy; Chauvet & Sons Inc; A; MP (status change request, Observer to Alternate)

There was discussion about the applications from Lukas Runge and David Butler, who had each requested Individual voting status, but each of whom also have their own respective companies. It was determined that they should be considered as Individual voters, not as Principal voters representing their respective companies.

Mitch Hefter moved to approve the applications as submitted. The motion was seconded and carried without objection or abstentions.

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:

Chauvet & Sons Inc: Mark Primrose, Jim Bogdanowics
Mainstage Theatrical Supply, Inc.: Leroy "Tripp" Oliver, III
Signify: Jon Hole
W.A. Benjamin Electric Co.: Larry Dew

All were present (Chris Kennedy was voted in as a voting Alternate for Chauvet & Sons today), except Leroy "Tripp" Oliver, so his status was changed as noted.

3.4.3 Automatic status changes

None.

3.4.4 Consensus body

This is the consensus body after all of today's meeting actions have been taken:

Name	Representing	Status	Int cat
Robert Bell	Acuity Brands Inc.	A	MP
Maurits van der Hoorn	Acuity Brands Inc.	A	MP
Kevin Loewen	Acuity Brands Inc.	P	MP
Red Walter	ADJ Products, LLC	A	MP
Nick Saiki	ADJ Products, LLC	P	MP
David Butler	Pixper	I	U
Jim Ohrberg	Candela Controls, Inc.	A	DR
Michael Lay	Candela Controls, Inc	A	DR
Andrew Mulkey	Candela Controls, Inc.	A	DR
Bill Ellis	Candela Controls, Inc.	P	DR

Name	Representing	Status	Int cat
Jim Bogdanowicz	CHAUVET & Sons Inc.	A	MP
Mark Primrose	CHAUVET & Sons Inc.	P	MP
Chris Kennedy	CHAUVET & Sons Inc.	A	MP
Jason Potterf	Cisco	P	MP
Milton Davis	Doug Fleenor Design, Inc.	P	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
Tracy S. Fitch	Electronic Theatre Controls, Inc.	P	MP
Paul Kleissler	Environmental Lights	P	MP
Adam Seidman	Environmental Lights	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
Peter Willis	Howard Eaton Lighting Ltd.	P	CP
John Huntington	I.A.T.S.E. Local 1	A	U
Edwin S. Kramer	I.A.T.S.E. Local 1	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
Hans Lau	I.A.T.S.E. Local 728	P	U
Shepherd Dick	Image Engineering	P	CP
Dennis Armijo	Insight Lighting	A	MP
Shawn Silverman	Lighting Infusion LLC	P	DE
Sam Molitoriss	Lightwright LLC	P	MP
Michael Karlsson	LumenRadio AB	P	MP
Stijn Geysen	Luminex Lighting Control Equipment	P	MP
Rene Berhorst	MA Lighting	P	MP
Scott M. Blair	Megapixel	P	CP
Michael Howe	Michael Howe	I	U
Florian Burtcher	Neutrik AG	A	MP
Dietmar Rottinghaus	Neutrik AG	P	MP
Matt Didon	ON LX Limited	P	CP
Marcus Bengtsson	Original Syndicate	P	U
Wayne David Howell	Robe Lighting s.r.o.	P	MP
Thierry Dupont	Robert Juliat	P	MP
Joe Izzard	Royal National Theatre	P	U
Lukas Runge	Lukas Runge	I	U
Jon Hole	Signify	P	MP
Maya Nigrosh	Sonos	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
Daniel Murfin	Tait Towers Manufacturing LLC	P	MP
Phong Ho	The Light Source Inc.	A	MP

Name	Representing	Status	Int cat
Vincent Worley	The Light Source Inc.	P	MP
Mitch Hefter	USITT	P	U
Kevin Linzey	Vectorworks, Inc	A	CP
Jeremy Powell	Vectorworks, Inc	P	CP
Larry Dew	W.A. Benjamin Electric Co.	P	DE
Paul Beasley	Walt Disney Company	P	U
Eric Bloom	Westview Productions	P	DR
		Total possible votes:	41
Votes by interest category;	Custom market producer (CP):		6
	Designer (DE):		3
	Dealer or rental company (DR):		2
	General interest (G):		0
	Mass market producer (MP):		19
	User (U):		11

Voting status key: P = Principal voter; A = Alternate voter; I = Individual voter

4 Approval of the minutes from the last meeting

[See CPmin07-2023r1_DRAFT.pdf]

Scott Blair moved to approve the minutes. The motion was seconded and carried without objection. Paul Kleissler abstained.

5 Approval of agenda

[See CPagnd10-2023r2_Draft.pdf]

Scott Blair moved to approve the r4 version of the agenda uploaded to the listfile page, not the r2 version indicated in the agenda. The motion was seconded. There was discussion.

Peter Willis said that an update to a document containing motions from him to the CPWG, the first version of which was distributed two weeks ago, was sent via limited email distribution before this morning's meeting. Michael Lay requested Richard Nix to distribute the updated document to the CPWG. It was emailed to the working group at 09:44.

The motion carried without objection or abstentions.

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)

*BSR E1.11 – 202x, Entertainment Technology - USITT DMX512-A, Asynchronous Serial Digital Data Transmission Standard for Controlling Lighting Equipment and Accessories. (Open for revision)

*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 (R2021), 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 (R2021), 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 (R2022), Additional Message Sets for ANSI E1.20, Remote Device Management. (Revision, reaffirmation, or withdrawal by November 2027)

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

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

*BSR E1.59, Object Transform Protocol

*BSR E1.63 Network Advertisement of Entertainment Protocols

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

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

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

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 ANSI E1.31 - 2018, Lightweight streaming protocol for transport of DMX512 using ACN, (Currently in reaffirmation process)

Maya Nigrosh (leader), Richard Thompson, Shawn Silverman, Sam Kearney, Paul Beasley (Co-leader), Kevin Loewen, Dan Murfin.

By this meeting time, the reaffirmation public review will have ended on 26 September, and the letter ballot to approve reaffirmation may have commenced.

The public review ended with no comments submitted. A reaffirmation letter ballot will commence soon after the meeting.

Maya Nigrosh said that the working group will consider a proposal to begin a separate project to standardize a version of per-slot priority, later in the meeting.

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

Paul Beasley or Larry Dew. Reflector: e137@esta.org, a general E1.37-x reflector.

Any news or action?

Larry Dew reported great progress on draft implementations at the Plugfest that is currently ongoing. He said that there will be a draft document for CPWG review very soon.

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

Maya Nigrosh/Scott Blair. Reflector: e137@esta.org, a general E1.37-x reflector.

[see BSR E1.37-5_PR5resols_CP_2023-1003_Draft.pdf, E1-37-5 General Purpose PIDs r33 2023-09-09 DIFF from 5th PR.pdf, E1-37-5 General Purpose PIDs r33 2023-09-09.pdf, and rdm-schema.json]

The task group has submitted draft comment resolutions, and a revised draft standard for consideration. They've also submitted a version comparison document, and a JSON schema file for reference.

Scott Blair discussed the comments received after the 6th public review. Editorial changes were accepted, significant additional features or improvements were rejected. Some issues that may be substantive but do not significantly affect usability of the standard were rejected.

Scott Blair moved to approve the comment resolutions from the 6th PR of BSR E1.37-5. The motion was seconded. There was discussion.

Shawn Silverman asked when final version numbers for the JSON schemas would be assigned. Scott said they would be assigned before publication, just like draft PID numbers.

The motion to approve the comment resolutions carried unanimously, with no abstentions.

Scott Blair moved to approve BSR E1.37-5 as an ANSI standard. The motion was seconded. A letter ballot will be issued.

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

Scott Blair/Dan Murfin. Reflector: e137-8@esta.org

Any news or action?

Dan Murfin reported. They are about 70% complete. They've noticed some inconsistencies, which they hope to address this afternoon. They might have something for the working group to review by USITT.

Peter Willis asked if publication of this document will make ANSI E1.37-2 obsolete. Scott Blair said yes. Peter Willis asked if there is text in the draft document to this effect. The task group chairs agreed this text should be added.

6.6 BSR E1.63 Network Advertisement of Entertainment Protocols

Jason Potterf/Kevin Loewen. Reflector: NAEP@esta.org

Any news or action?

Jason Potterf reported. They are meeting later today. There were some technical issues with the original proposal. In their schema, they want to send a lot of data, but don't have a lot of room. Recent revisions to LLDP may alleviate these issues, however, the industry is moving toward centralized command-and-control network management rather than automatic reconfiguration based on device advertisements. This shift causes them to ask the question: is this a worthwhile project to continue. The task group will meet at 17:00 to discuss this, and he invited anyone who wants to participate in the discussion to please attend that meeting.

6.7 BSR E1.73-1, Next Generation Entertainment Control Model: Uniform Device Representation (UDR)

Dan Murfin/Sam Kearney Reflector: NextGenLibrary@esta.org

[see [BSR_E1-73-1_CP2023-1007.pdf](#)]

The task group has provided a draft for the working group's consideration.

Dan Murfin reported, saying that he will address all four of the E1.73 parts here. He said they've been moving along at a rapid pace. The task group recognizes that the current deliverable isn't fully complete, but thinks the document set needs a broader audience to review, so they've submitted four parts (-1 thru -4) for the working group to consider. He said it's important for everyone to read the four parts together.

He also said that there is a GitLab repository containing JSON schemas to accompany the public review, and it would be great if people reading the public review could be informed that this repository exists and is an aid to understanding the standard overall. The documents should be distributed together as a zip archive with all 4 documents and a note directing readers to the GitLab repository.

He mentioned the two new project requests, to be considered later in the meeting.

Sam Kierney recognized Dan Murfin's work on this, to-date. Scott Blair acknowledged this, saying that the effort is the result of long-standing issues born out of E1.17. This set of documents represents something that has been needed for a long time.

Dan Murfin moved to send all four documents out to public review. The motion was seconded, and carried without objection or abstention. A BSR8 will be filed with ANSI.

6.8 BSR E1.73-2 Core Definitions for E1.73-1 Next Generation Entertainment Control Model: Uniform Device Representation (UDR)

[see [BSR_E1-73-2_CP2023-1008.pdf](#)]

The task group has provided a draft for the working group's consideration.

6.9 BSR E1.73-3 Intensity/Color Definitions for E1.73-1 Next Generation Entertainment Control Model: Uniform Device Representation (UDR)

[see [BSR_E1-73-3_CP2023-1009.pdf](#)]

The task group has provided a draft for the working group's consideration.

6.10 BSR E1.73-4 Motion Definitions for E1.73-1 Next Generation Entertainment Control Model: Uniform Device Representation (UDR)

[see [BSR_E1-73-4_CP2023-1010.pdf](#)]

The task group has provided a draft for the working group's consideration.

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

Jason Potterf/Maya Nigrosh. Reflectors: nextgencontrolprotocol@esta.org and NextGenTransport@esta.org

Any news or action?

Jason Potterf congratulated Dan Murfin for the first, and probably the last, unanimously approved public review on today's agenda. He encouraged the entire CPWG to get the word out about the upcoming public reviews.

He said Next Gen will fail if they go to public review and no one reads it, so he asked everyone to put this document in front of every console manufacturer they know. They're almost ready to deliver a draft for working group consideration.

He said that a lot of discussion was taking place on naming and branding of the Next Gen efforts. Discussion of this primarily takes place on Discord. Please contact Jason Potterf to join if you want to participate in this discussion.

He also reported that the transport study group is focusing on security, established frameworks and protocols that meet security requirements imposed by regulations and by our customers, while also meeting usability requirements.

Jason Potterf stated that in addition to publicizing the current state of E1.73 outside of ESTA, we should also publicize it to the Photometrics working group and to other working groups that may be affected by the project.

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

Kevin Loewen/Paul Beasley. Reflector: CPWG_Secure@esta.org

*From the draft July meeting minutes:
They hope to have something for October's meeting.*

Any news or action?

Milton Davis summarized the results of the most recent task group meeting. The task group has solidified the threat model and is closing in on a concept for the technical implementation of sACN security.

Jason Potterf reported that there are two major problems to solve. The first is coming up with a "good-enough" implementation involving a pre-shared key that provides reasonable security, including against replay attacks. The second is determining a solution for distributing that key between sACN senders and receivers. While the first problem is mostly solved, the second problem is complex, and could expand the scope of the effort significantly. As such, the task group's tentative plan is to publish a standard that solves the first problem and defer the second problem until after a first revision is published.

Jason Potterf said this will have an impact on other working groups. Milton Davis said he thought the draft has advanced forward at a rapid rate. They might have something ready by January's meeting. Jason Potterf reiterated that their biggest challenge right now is how to distribute the security keys.

6.13 BSR E1.59 - 2021, Object Transform Protocol

Dan Murfin and Maya Nigrosh. Reflector: e159@esta.org

Any news or action?

Dan Murfin reported. They're seeing more implementation in the market, but it's still slow. They are waiting on SMPTE's RAS to release. Scott Blair noted that the knowledge base is in the SMPTE's group, but they have no transport mechanism - that's where our standard complements.

Thierry Dupont asked about the technology cost to move from PosiStageNet to OTP. Dan Murfin and Chris Kennedy both mentioned that the protocol is lightweight and implementation is relatively easy. Dan Murfin mentioned that a Wireshark dissector and a test tool are available.

6.14 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.

E1.11: Mitch Hefter
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
E1.63 NAEP: Jason Potterf and Kevin Loewen
E1.68: Javid Butler and Wayne Howell
E1.73: Dan Murfin and Sam Kearney
E1.77: Kevin Loewen and Paul Beasley
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

Jason Potterf volunteered to set up a poll to determine how many people might be in attendance (in-person) for January and March task group meetings.

6.15 Email reflectors

Maya Nigrosh

Milton Davis reminded everyone that requests to change membership of the email reflectors should go through Milton Davis and Michael Lay.

6.16 BSR E1.11 – 202x, Entertainment Technology - USITT DMX512-A

Progress report, Mitch Hefter (leader)

[See [BSR E1-11_202x R3 2023 0920.pdf](#) and [BSR E1-11_202x_CP2023-1011r1a.pdf](#)]

The task group has provided draft revisions for the working group's consideration. One document reveals tracked changes, for discussion. The other is a clean version for distribution.

Mitch Hefter reported. They had five meetings. He thanked everyone on the task group. Javid, Mike, Milton, etc. He noted the documents that have been distributed to the working group. He summarized all of the changes that were made from the original standard to the latest draft version. He asked if there were any questions. There were none.

He moved that the draft be sent to first public review. The motion was seconded, and carried without objection or abstention. The motion forwards to the TSC for consideration.

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

Javid Butler/Wayne Howell. Reflector: ProtocolsCompliance@esta.org.

[see [BSR_E1.68_PR1_CmmntResols-Draft.pdf](#) and [BSRE1-68_CP2021-1003r2.pdf](#)]

The task group has submitted draft comment resolutions, and a revised draft standard for consideration.

Javid Butler reported. There were 15 comments to resolve.

He moved to approve the proposed comment resolutions. The motion was seconded. The motion carried without objections or abstentions.

Javid Butler said that Peter Willis submitted comments about editorial changes, etc, which they've agreed to address as public review comments. He moved to send the latest revised draft with editorial changes only, to second public review. The motion was seconded and carried without objection or abstention.

6.18 BSR E1.20 – 201x, Remote Device Management over USITT DMX512

Progress report, Wayne Howell or Scott Blair. Reflector: e1.20@esta.org

[See BSR_E1-20_201x-6 rev5 diff rev4.pdf, BSR_E1-20_201x-6 rev5.pdf, and BSR E1.20_PR4_CmmntResols_DRAFT.pdf]

The task group has submitted draft comment resolutions, and a revised draft standard for consideration. They've also submitted a version comparison document for reference.

[Also see CPWG E1.20 Motions v1.1.pdf]

Peter Willis has submitted a comments and motions document for discussion and possible action.

[Also see CPWG E1.20 Motions v1.2.pdf, distributed to the CPWG as noted in agenda item 5]

Wayne Howell reported. He noted Peter Willis' comments submitted to the working group, saying that they can be addressed during public review. He moved to approve the proposed comment resolutions and send the draft revision to another public review. The motion was seconded. There was discussion.

Peter Willis noted his earlier email, pleading the working group to reconsider an earlier action on comment resolutions. He explained the reasons for his issues and objections. He offered a possible compromise by approving all but two of the proposed resolutions, those other two being revised and resolved here.

Sam Kearney said he had reviewed Peter's issues and found them to be technically sound. He asked if the task group was willing to address them now.

Wayne Howell said he thought the two contentious comments are better addressed as PR comments.

Steve Terry reminded everyone that our P&P states that the task groups are advisory to the consensus voting body. If objections have technical merit, it's up to the working group to consider them.

Scott Blair supported Wayne Howell's opinion.

Michael Karlsson disagreed with Wayne's assessment. He explained why. There are discrepancies between the published version and this new draft.

Sam Kearney said he doesn't think that past consensus carries weight if there is still strong objection. He also suggested the option to not send to public review at this time, allowing the task group to work towards a compromised resolution, is also an option. He noted that there are people on the task group itself who are not in agreement.

Javid Butler agreed with Sam Kearney's suggestion.

Peter Willis iterated his motion intent document. Larry Dew, a task group member, said they agreed with Peter's objections and thought it would be acceptable to send the resolutions back to them for compromise resolution. Sam Kearney said he thought it was appropriate to resolve these few contentious resolutions now.

Jason Potterf asked if the task group thought this next PR might be the last PR. Wayne said it's hard to say.

Dan Murfin said discussion was persuasive enough for him to reconsider a desire to move this forward.

Sam Kearney noted again that the objections were technically valid. He asked why we should consider pushing this forward purely on procedure when there is clearly not consensus within the task group.

Javid Butler called the previous question, which carried.

The main motion failed, with one abstention (John Huntington).

Jason Potterf reminded everyone that on all of his SDO participation there are winners and losers. We must not lose sight of our procedural requirements, which state that a supermajority of the working group is necessary to move public review comments forward.

There was more general discussion. The task group will do further work.

7 New business

7.1 ANSI E1.17 – 2015 (R2020), Entertainment Technology – Architecture for Control Networks (ACN)

Note from an implementer: not all the documents are “bundled” into the download zip file.

Sam Kearney will verify the zip file contents.

7.2 Additional E1.73 project extensions

[see *TSP_ProjectRequest-Gobo-5.pdf* and *TSP_ProjectRequest-Shape-6.pdf*]

Two new project requests have been submitted by the E1.73 task group, for consideration.

Dan Murfin summarized the need for these two projects. He moved to approve the new project requests. The motion was seconded and carried without objection or abstention. The motion will forward to the TSC.

7.3 Per-slot priority extension for E1.31

[see *PerSlot_TSP_ProjectRequest_mn.pdf*]

Maya Nigrosh has submitted a new project request for consideration.

Michael Lay noted the project request, saying she and Richard Thompson would co-chair the project. He moved to approve the project request. The motion was seconded. Mitch noted that there is an error in the DMX reference.

Jason Potterf said this is not an attempt to add a lot of stuff to E1.31 – it’s a very specific patch to E1.31.

The motion carried without objection and abstention. The motion forwards to the TSC.

Mike Lay appointed the two co-chairs, and said that the original E1.31 task group would be reappointed

8 Other business and announcements

8.1 National Electrical Code (NEC) update

Jason Potterf, Mitch Hefter, or Bill Ellis

Mitch Hefter reported. Over 4400 Public Inputs were received for proposed changes to the 2023 edition for 2026. Several are related to multi-pin connectors as an outgrowth of the BSR E1.80 project. Panel Task Groups are being formed and will meet over the next couple of months in preparation for the First Draft meetings in January in Charleston, SC.

Note – NEC CMP-15 2026 First Draft meetings are January 24 – 26, 2024, which overlap with the NAMM dates.

Jason mentioned CyberSec, and the PIs to move it out of NFPA 7- to NFPA 70B.

8.2 Illuminating Engineering Society (IES) update

Bill Ellis or Mitch Hefter

Bill Ellis reported. The museums task group is active. Look for public review documents soon.

8.3 Institute of Electrical and Electronics Engineers (IEEE) update

Jason Potterf

Jason reported. Lot of interesting things like 400Gb and 800Gb Ethernet are coming. 10Mb single pair, 100 Mb long-wire 2-pair (40 meter per run). Stay tuned for more updates.

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

Scott Blair or Marcus Bengtsson

Scott Blair reported. A lot is happening. He recapped the RIS (Rapid Industry Solutions) process. Main project impacting us is OSVP (On Site Virtual Production), which essentially captures metadata for all screen (on-camera) elements: scenery, props, lighting, etc. This potentially has an impact on other working groups.

8.5 NAMM Presentations

Some people have stepped forward to volunteer. Presenters are still needed. See Milton.

8.6 Plugfests – USA

It's happening now, right here in Westlake!

It's well-attended. The in-person working group meeting attendance is significantly higher than last cycle.

8.7 Plugfests – Europe

The PLASA-hosted PlugFest returns to Lille, France from 16-19 April 2024. Register your interest to be the first to know when tickets go on sale via <https://www.plasa.org/plugfest/>.

8.8 Above & Beyond Awards

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>.

Winter meetings will be held in conjunction with NAMM Show 2024, during the week of 22 January 2024, In Anaheim, CA. Spring meetings will be held in conjunction with USITT, in Seattle, WA. During the week of 18 March 2024. Summer meetings will be held in NYC, co-locating with the NATEAC convention, during the week of 08 July 2024. Fall meetings will likely return to Westlake, TX.

Mike Lay mentioned the possibility of a CPWG WebEx meeting in early November, to help work in progress move forward.

Richard Nix said that the NATEAC planning committee is actively seeking proposals for next year's NATEAC event in NYC. Anyone interested in submitting a proposal should go to the ESTA home page, and click on the NATEAC banner link, which will redirect to a proposal submission form.

10 Adjournment

There being no further business, Milton Davis adjourned the meeting at 12:52.

Control Protocols Working Group members, contact information, and email reflectors as of 07 October 2023

Name	Representing	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 Thezatre Controls, Inc.	O	MP
Robert Barbagallo	Solotech Inc.	O	U
Seb Barresi	Royal National Theatre	O	U
Paul Beasley	Walt Disney Company	P	U
Robert Bell	Acuity Brands Inc.	A	MP
Marcus Bengtsson	Original Syndicate	P	U
Justin Bennett	University of the Incarnate Word	O	U
Rene Berhorst	MA Lighting	P	MP
Scott M. Blair	Megapixel	P	CP
Eric Bloom	Westview Productions	P	DR
Jim Bogdanowicz	CHAUVET & Sons Inc.	A	MP
Thomas Bretgeld	Bretgeld Engineering GmbH	O	CP
Florian Burtcher	Neutrik AG	A	MP
Justyn Butler	JBOTS	O	CP
John David (Javid) Butler	HDR Consulting LLC	P	DE
David Butler	Pixsper	P	U
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
Anthony Chiappone	Chauvet Lighting	O	MP
Martin Chisnall	Martin Chisnall	O	U
Jon Chuchla	Audio Visual Systems, Inc.	O	G
Kenny Cohen	Lightwright LLC	A	MP
Gareth Conner	Creative Conners, Inc.	O	MP
Chris Conti	PRG	O	DR
Milton Davis	Doug Fleenor Design, Inc.	P	MP

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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
Shepherd Dick	Image Engineering	P	CP
Matt Didon	ON LX Limited	P	CP
Rich Dionne	Purdue University	O	DE
Gary Douglas	Phospec Industries, Inc.	O	MP
Tucker Downs	ROE Visual USA	O	MP
Tom Drozd	Encore Global	O	DR
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.	P	MP
Trevor Forrest	Helvar Lighting Control	O	MP
Bev Aurora Fremin	Bev Aurora Fremin	O	U
Harrison Freni	Infinitus Lux, LLC	O	U
Stijn Geysen	Luminex Lighting Control Equipment	P	MP
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
Robert Graham	Wenger Corporation	O	DR
Andrew Grant	Royal National Theatre	O	U
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
Phong Ho	The Light Source Inc.	A	MP

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Julian Hoare	Tait Towers Manufacturing LLC	A	MP
Jon Hole	Signify	P	MP
Maurits van der Hooon	Acuity Brands Inc.	A	MP
Michael Howe	Michael Howe	I	U
Wayne David Howell	Robe Lighting s.r.o.	P	MP
John Huntington	I.A.T.S.E. Local 1	A	U
Leroy "Tripp" Oliver, III	Mainstage Theatrical Supply, Inc.	P	DR
Joe Izzard	Royal National Theatre	P	U
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	O	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
Chris Kennedy	Chauvet Lighting	O	MP
Bill Kirby	Crescit Software, Inc.	O	G
Paul Kleissler	Environmental Lights	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
Terry Kuhn	Terry Kuhn	O	U
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

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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
John Mehlretter	Lehigh Electric Products Co.	O	MP
Andreas Modschiedler	Adam Hall GmbH	O	MP
Sam Molitoriss	Lightwright LLC	P	MP
Andrew Mulkey	Candela Controls, Inc.	A	DR
Daniel Murfin	Tait Towers Manufacturing LLC	P	MP
John Musarra	John Musarra	O	U
Gavin Nel	Robe Lighting s.r.o.	O	MP
Maya Nigrosh	Sonos	P	MP
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
Dietmar Rottinghaus	Neutrik AG	P	MP
Alan M. Rowe	I.A.T.S.E. Local 728	A	U
Lukas Runge	Lukas Runge Veranstaltungstechnik	P	U
Nick Saiki	ADJ Products, LLC	P	MP
Yngve Sandboe	Sand Network Systems, Inc.	O	MP
Jessica Sanders	Villain Lighting LLC	O	U
Max Schweiner	Electronic Theatre Controls, Inc.	O	MP
Adam Seidman	Environmental Lights	A	MP
Ford Sellers	Chauvet Lighting	O	MP
Andrew Sherar	Lightmoves Pty Ltd	O	DR
Shawn Silverman	Lighting Infusion LLC	P	DE

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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
Christopher B. Tilton	About the Stage, LLC	O	DE
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
Red Walter	ADJ Products, LLC	A	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.	P	MP
David Yellin	Sumolight GmbH	O	MP
Jeong Sik Yoo	Ghost LX	O	DE
Liang Zhiguang	Guangzhou Haoyang Electronic Co., Ltd.	P	CP