

Minutes
Control Protocols Working Group
10:00 to 13:00 EDT
16 July 2020
via WebEx

Presiding chairperson: Milton Davis, Doug Fleenor Design

Recording secretaries: Richard Nix & Karl Ruling; ESTA

Members attending:

Christian Allabauer; O; G
Paul Beasley; Walt Disney Company; P; U
Robert Bell; Acuity Brands Inc.; A; MP
Scott M. Blair; Megapixel; P; CP
Eric Bloom; Westview Productions; P; DR
Jim Bogdanowicz; Kino Flo, Inc.; A; MP
Pete Borchetta; Altman Lighting; P; MP
John David (Javid) Butler; Moda Light; P; MP
Milton Davis; Doug Fleenor Design, Inc.; P; MP
Matt Didon; ON LX Limited; P; CP
Gary Douglas; Phospec Industries, Inc.; P; MP
Tucker Downs; Tucker Downs; O; G
Bill Ellis; Candela Controls, Inc.; P; DR
Stijn Geysen; Luminex Lighting Control Equipment; P; MP
Robert Goddard; Goddard Design Co.; P; MP
Nick Harper; Nick Harper; O; G
Mitch Hefter; USITT; P; U
Jon Hole; Signify; P; MP
Wayne David Howell; Artistic Licence Holdings; P; DE
Leroy "Tripp" Oliver, III; Mainstage Theatrical Supply, Inc.; P; DR
John Valus Jr.; Lex TM3; P; CP
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; Candela Controls, Inc; A; DR
Kevin Loewen; Acuity Brands Inc.; P; MP
Jim Love; Tait Towers Manufacturing LLC; P; MP
Rob Love; Insight Lighting; O; MP
Vangelis Manolis; AtlaBase Ltd.; O; CP
Bill McIntyre; Show Distribution Group, Inc.; P; CP
Daniel Murfin; Royal National Theatre; P; U
Maya Nigrosh; Sonos; P; MP
Jason Potterf; Cisco; P; MP
Jeremy Powell; Vectorworks, Inc; O; CP
Mark Primrose; Kino Flo, Inc.; P; MP
Ford Sellers; Chauvet Lighting; O; MP
Shawn Silverman; Lighting Infusion LLC; P; DE

Visitors: Jason Marin
Daniel Weiss; Acuity Brands

1 Opening remarks

Milton Davis called the meeting to order at 10:05 EDT. He welcomed all to the COVID-19 edition of the CPWG.

He asked people to mute their mics when not speaking to avoid picking up background noise. He also noted that if you hear people complaining about noise, but you don't hear the noise yourself, the noise is coming from you.

2 Anti-trust and patent statements

2.1 Reading of the anti-trust statement

The following statement was aloud to the assembly by Milton Davis:

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 held up a copy of the easy to read pamphlet in front of his webcam. No anti-trust concerns were raised.

2.2 Reading of the call for patents

The following statement was aloud to the assembly by Milton Davis:

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 Milton Davis:

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

Milton Davis read the list of attendees on the screen, and people introduced themselves as their names were called.

3.3 Determination of a quorum

Membership as of 26 June is 33 voters, which sets a quorum at 11, and the minimum number needed for a supermajority vote at 17. Milton Davis said that we had enough voters present to pass a motion needing a

supermajority.

3.4 Processing of new membership and status change requests

3.4.1 Changes to observer status

Larry Schoeneman has asked to be moved to observer status.

3.4.2 New applications

The following applications had been received:

Gary Douglas; Phospec Industries Inc.; Principal; MP

Stijn Geysen, Luminex Lighting Control Equipment; Principal; MP

Bill Ellis moved that the applications be accepted. The motion was seconded. The motion was approved.

3.5 Consensus body during this meeting was:

| Delegate | Representing | Voting status | Int. cat. |
|-----------------------|---|---------------|-----------|
| Robert Bell | Acuity Brands Inc. | A | MP |
| Kevin Loewen | Acuity Brands Inc. | P | MP |
| Maurits van der Hoorn | Acuity Brands Inc. | A | MP |
| Pete Borchetta | Altman Lighting | P | MP |
| Wayne David Howell | Artistic Licence Holdings | P | DE |
| Bill Ellis | Candela Controls, Inc. | P | DR |
| Brent Boulnois | Candela Controls, Inc. | A | DR |
| Jim Ohrberg | Candela Controls, Inc. | A | DR |
| Michael Lay | Candela Controls, Inc | A | DR |
| Jason Potterf | Cisco | P | MP |
| Paul Kleissler | City Theatrical, Inc. | P | MP |
| Marcus Bengtsson | disguise | 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 |
| Steve Terry | Electronic Theatre Controls, Inc. | A | MP |
| Sam Kearney | Electronic Theatre Controls, Inc. | P | MP |
| Robert Goddard | Goddard Design Co. | P | MP |
| 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 |

| Delegate | Representing | Voting status | Int. cat. |
|---------------------------|------------------------------------|---------------|-----------|
| Mark Primrose | Kino Flo, Inc. | P | MP |
| Jim Bogdanowicz | Kino Flo, Inc. | 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 |
| John David (Javid) Butler | Moda Light | P | MP |
| Matt Didon | ON LX Limited | P | CP |
| Simon Newton | Open Lighting Project | P | G |
| Gary Douglas | Phospec Industries, Inc. | P | MP |
| Daniel Murfin | Royal National Theatre | P | U |
| Bill McIntyre | Show Distribution Group, Inc. | P | CP |
| Jon Hole | Signify | P | MP |
| 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 |

| Total votes possible | 34 | |
|-------------------------------|----|----|
| Interest categories subtotals | 5 | CP |
| | 2 | DE |
| | 3 | DR |
| | 1 | G |
| | 17 | MP |
| | 6 | U |

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

Interest Category key: MP = Mass-market producer, CP = Custom-market producer, DR= Dealer or rental company, U = User, G = General interest, DE = Designer

4 Approval of the minutes from the last meeting

See CPmin04-2020_DRAFT.pdf

Kevin Loewen moved that the minutes be accepted as written. The motion was seconded and then approved

without objection or abstention.

5 Approval of agenda

Shawn Silverman moved to approve the agenda. The motion was seconded and then approved without objection or abstention.

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

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

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 – 20xx, 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 – 20xx, Object Transform Protocol

*BSR E1.63 Network Advertisement of Entertainment Protocols

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

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 last meeting minutes: Wayne Howell reported that they are making good progress on public review comment resolutions, and expect to have something back to the working group in time for the next meeting.

Wayne Howell reported very little progress. The pandemic has interfered with getting work done. Plans to have meetings in the coming month and make progress to report at the next meeting

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

At the last meeting Scott Blair said that he is still collecting errata.

Scott Blair said he has also been completely overwhelmed with his paying work, and has no additions to the errata.

Sam Kearney said that ETC's open-source E1.33, RDMnet, implementation is available at <https://github.com/ETCLabs/RDMnet>.

6.4 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 moved that we reaffirm the current standard. The motion was seconded. The question will be decided letter ballot, with a concurrent public review.

Scott Blair said there has been some discussion of creating another document to address IPv6 and IPv4, but nothing exists to bring to the working group yet.

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

The last public review ended 9 April 2018.

Peter Willis was not present; there was no comment resolution progress report. There was concern expressed by several CPWG members about Peter Willis because he has not been in contact with anyone in the working group for several months.

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

Scott Blair gave a comment resolutions progress report. He said that the task group had had a good meeting in the spring. He thanked Shawn Silverman for all of the JSON work he had been doing. He said they are close to wrapping up, and plans it to go out for review with E1.20.

6.7 BSR E1.59 - 201x, Object Transform Protocol

See comment summary (E1-59_3rdReviewCommntSmmry.pdf) and proposed resolutions and revised draft standard: E1-59 OTP 2020-06-26.pdf, E1-59 OTP Diff 2020-06-26.pdf, and E1-59 OTP PR3 Comment Resolutions.pdf.

Dan Murfin reported. He moved that the comment resolutions be accepted. The motion was seconded. Milton asked for objections via chat or voice. He then asked for any abstentions. Hearing no objections or abstentions, Milton Davis declared the resolutions accepted.

Dan Murfin moved that the revised draft standard be offered for public review. Milton asked for objections via chat or voice. He then asked for any abstentions. Hearing no objections or abstentions, Milton Davis declared the motion accepted.

6.8 BSR E1.63 Network Advertisement of Entertainment Protocols

Jason Potterf reported no document to share. The will of the task group has been captured, but in a non-document format.

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

Javid Butler reported that the task group met on July 14 and made progress. Another task group meeting is scheduled for tomorrow, 17 July. He hopes to have something to consider for public review by the Fall 2020 meeting, but more likely by the January 2021 meeting.

Bob Goddard reported that the document is massive and there are parts that will be contentious.

6.10 Next Gen Color study group

Mark Primrose reported that E1.54 was offered for public review. It had comments. We have a draft resolutions document for discussion at the Photometrics Working Group.

Michael Lay and Milton Davis announced the dissolution of the Next Gen Color study group.

6.11 Next Gen Transport study group

Jason Potterf reported and said that a large list of existing transport protocols has been compiled. He does not think that the task group will mandate particular protocols, but the list will be useful. They have one more meeting scheduled for next week, and will then decide how to proceed.

6.12 Next Gen Luminaire Libraries study group

Dan Murfin reported regular meetings and making progress. They are working on a data model and making good progress.

6.13 Next Gen Study Group (Overall)

Jason Potterf reinforced some of what Mark Primrose had to say about the Photometrics E1.54 project. Once that is a standard specifying what information needs to be transmitted, the CPWG will work on how it is to be transmitted.

Potterf said there is starting to be a growing need to publish things that are not Word documents. He suggested the need to establish a GitHub place for sharing documents. Shawn Silverman suggested that GitHub is perhaps not the best platform. He suggested forming a study group to give advice on how this might be done. Michael Lay said it would be good to find out the cost of this to ESTA, and to document a scope and any recommended rules or processes that might be required so that we might make this a request to the TSC

A GitHub study group was formed:

- Jason Potterf (chairperson)
- Maya Nigrosh
- Shawn Silverman
- Scott Blair
- Sam Kearney
- Dan Murfin
- Nick Harper
- Javid Butler

(ESTA staff subsequently set up a reflector for this study group: CPWG_github_study@esta.org.)

Render.com was mentioned as another good platform to consider for collaborative work.

6.14 Protocol Security study group

Task group consists of Kevin Loewen (Co-leader), Paul Beasley (Co-leader), Daniel Murfin, Jason Potterf, Javid Butler, Jim Love, Marcus Bengtsson, Mark Primrose, Maya Nigrosh, Michael Karlsson, Michael Lay, Robert Bell, Sam Kearney, Shawn Silverman, Wayne Howell, and Matt Didon The task group is to evaluate our existing standards and current projects and make recommendations to the CPWG on how to meet these new legislative requirements.

Kevin Loewen reported that they are working on recommendations.

Nick Harper asked via email to be added to the study group. Michael Lay added him.

6.15 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 Blair.

- 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 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 (disbanded)~~
- Next Gen Transport study group: Maya Nigrosh and Jason Potterf
- Next Gen luminaire library study group: Sam Kearney and Dan Murfin.
- Protocol Security study group: Kevin Loewen and Paul Beasley
- GitHub study group: Jason Potterf

7 New business

8 Other business and announcements

8.1 National Electrical Code (NEC) update

Mitch Hefter reported that there is a PoE emergency lighting task group work that may impact our work, and other proposals that have little or no impact.

8.2 Illuminating Engineering Society of North America (IESNA) update

Mitch Hefter said that the projects he was working on, LP-6 and RP-42, have been adopted as American National Standards. LP-8 has been adopted, too. An IES on-line library is scheduled to launch in August.

Bill Ellis reported that there is work to consolidate the controls information from the various applications-oriented groups back to the controls group.

8.3 Plugfests

8.3.1 Europe

Wayne Howell said that the event earlier this year was successful. Next year's event is still uncertain. He thinks it is unlikely to go forward in an in-person format,.

8.3.2 USA

Milton Davis said that we had planned to have one in October, but we won't be having one.

Shawn Silverman said his company's work-from-home guidance is not to plan to return to the workplace before January 2021.

8.4 Above & Beyond Awards

People were reminded that information on the Above & Beyond Awards may be found at http://tsp.esta.org/tsp/news/award_recipients.html.

8.5 ESTA Curated Education during the National Association of Music Merchants (NAMM)

Milton Davis said that NAMM 2021 is still on schedule. Are there session ideas? Even if the show is not in-person, there might be on-line educational sessions. He asked for session ideas. Please contact him to offer session ideas.

(Post Meeting Update – The 2021 NAMM Show, which was scheduled for the week of 18 January 2021 at the Anaheim Convention Center, has officially been canceled due to the continued spread of COVID-19 organizers have announced. However, there will be an on-line event, "Believe in Music," scheduled for the same week.)

9 Schedule for future meetings

The meeting schedule may be found at <http://www.esta.org/ESTA/meetings.php>. The Autumn meetings are scheduled for the second week of October via WebEx.

10 Adjournment

Scott Blair moved that we adjourn. The motion was seconded and then accepted by acclamation. The meeting was adjourned at 11:39.

Control Protocols Working Group members and contact information as of 22 July 2020

| Delegate | Representing | Voting status | Int. cat. |
|---------------------------|-----------------------------------|---------------|-----------|
| Cameron Affleck | Cameron Affleck | O | U |
| Christian Allabauer | Christian Allabauer | O | G |
| Matthew Ardine | I.A.T.S.E. Local 728 | A | U |
| Tim Bachman | Altman Lighting | O | MP |
| Nick Ballhorn-Wagner | Electronic Theatre Controls, Inc. | O | MP |
| Robert Barbaggio | Solotech Inc. | O | U |
| Tom Barthel-Steer | Electronic Theatre Controls, Inc | O | MP |
| Paul Beasley | Walt Disney Company | P | U |
| Robert Bell | Acuity Brands Inc. | A | MP |
| Marcus Bengtsson | disguise | P | MP |
| 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 | Kino Flo, Inc. | A | MP |
| Pete Borchetta | Altman Lighting | P | MP |
| Brent Boulnois | Candela Controls, Inc. | A | DR |
| Justyn Butler | JBOTS | O | CP |
| John David (Javid) Butler | Moda Light | P | MP |
| 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 |

Control Protocols Working Group members and contact information as of 22 July 2020

| Delegate | Representing | Voting status | Int. cat. |
|-------------------|--|---------------|-----------|
| 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 |
| Gareth Conner | Creative Conners, Inc. | O | MP |
| Fraser Connolly | Obsidian Controls | O | DE |
| Chris Conti | PRG | O | DR |
| Milton Davis | Doug Fleenor Design, Inc. | P | MP |
| Jeremy Day | Lumenpulse Group | O | MP |
| Steve Denim | Electronic Theatre Controls, Inc. | O | MP |
| Larry Dew | W.A. Benjamin Electric Co. | O | DE |
| Matthew Dews | Electronic Theatre Controls, Inc | O | MP |
| Matt Didon | ON LX Limited | P | CP |
| Rich Dionne | Purdue University | O | DE |
| Gary Douglas | Phospec Industries, Inc. | P | MP |
| Tucker Downs | Tucker Downs | O | G |
| Hamish Dumbreck | James Embedded Systems Engineering | O | MP |
| James Eade | ABTT | O | G |
| Bill Ellis | Candela Controls, Inc. | P | DR |
| Paul K. Ericson | Stantec | O | DE |
| Trevor Forrest | Helvar Lighting Control | O | MP |
| 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 |
| 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 | UC Berkeley | O | U |
| Mitch Hefter | USITT | P | U |
| Bill Hewlett | ImageCue LLC | O | MP |
| 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 |
| 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 | Electronic Theatre Controls, Inc. | P | MP |
| Jonathan Kemble | Jonathan Kemble | wtg | U |

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|---------------------|---|---------------|-----------|
| Christopher 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 |
| Kevin Loewen | Acuity Brands Inc. | P | MP |
| Jim Love | Tait Towers Manufacturing LLC | P | MP |
| Rob Love | Insight Lighting | O | MP |
| Vangelis Manolis | AtlaBase Ltd. | O | CP |
| David McCulloch | David McCulloch | O | U |
| Bill McIntyre | Show Distribution Group, Inc. | P | CP |
| John Mehlretter | Lehigh Electric Products Co. | O | MP |
| David G. Meschisen | Lumenpulse Group | O | MP |
| Daniel Murfin | Royal National Theatre | P | U |
| John Musarra | John Musarra | O | U |
| Simon Newton | Open Lighting Project | P | G |

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|------------------------|------------------------------------|---------------|-----------|
| 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 | O | CP |
| Mark Primrose | Kino Flo, Inc. | P | MP |
| Gary Pritchard | LSC Lighting Systems PTY Ltd | O | MP |
| Charles Reese | Production Resource Group | O | DR |
| 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 |
| Nicolai Gubi Schmidt | Nicolai Gubi Schmidt | O | U |
| Larry Schoeneman | Larry Schoeneman | O | DE |
| Ford Sellers | Chauvet Lighting | O | MP |
| Shawn Silverman | Lighting Infusion LLC | P | DE |
| 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 |
| Tracy Underhill | Triple C Lighting & Controls | O | G |

Control Protocols Working Group members and contact information as of 22 July 2020

| Delegate | Representing | Voting status | Int. cat. |
|-----------------|----------------------------|---------------|-----------|
| 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 |
| David Yellin | Sumolight GmbH | O | MP |
| Jeong Sik Yoo | Ghost LX | O | DE |
| Andy Zepp | Duck Lights | O | DR |

Voting Status key: P = Principal voter, A = Alternate voter, I = Individual voter, O = Observer, exf = ex officio

Interest Category key: MP = Mass-market producer, CP = Custom-market producer, DR= Dealer or rental company, U = User, G = General interest, D = Designer