

Minutes
Control Protocols Working Group
Thursday, 17 March 2016
Salt Lake Downtown Marriott at City Creek
Salt Lake City, UT

Presiding co-chairpersons:

Maya Nigrosh; Electronic Theatre Controls, Inc.; A; MP
Michael Lay; Philips Color Kinetics; Royal Philips; P; MP

Recording secretaries: Karl G. Ruling and Erin Grabe; ESTA

Members in attendance:

Dan Antonuk; Electronic Theatre Controls, Inc.; P; MP
Scott M. Blair; Full Throttle Films/ VER; P; DR
Edward R. Condit; OSRAM Lighting Solutions; OSRAM Licht AG; O; G
Milton Davis; Doug Fleenor Design, Inc.; P; MP
Tucker Downs; O; U
Bill Ellis; Candela Controls, Inc.; P; DE
Andrew Frazer; Stellasces.com; P; MP
Mitch Heffer; USITT; P; U
John Huntington; City Tech, Ent Tech Department; I.A.T.S.E. Local 1; A; U
Eric Johnson; O; G
Michael Karlsson; LumenRadio AB; LumenRadio AB; P; MP
Paul Kleissler; City Theatrical, Inc.; 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
Roger Lattin; I.A.T.S.E. Local 728; P; U
Dan Lisowski; Dept. Of Theatre and Drama; University of Wisconsin - Madison; P; DE
Kevin Loewen; Pathway Connectivity; Acuity Brands Inc.; P; MP
Tyrone Mellon, Jr.; Lex Products; Lex TM3; P; CP
Simon Newton; Open Lighting Project; P; G
Kimberly Corbett Oates; Schuler Shook; P; DE
Jason Potterf; Cisco; P; MP
Larry Schoeneman; DesignLab Chicago, Inc.; P; DR
Ken Vannice; Ken Vannice LLC; I; G
Peter Willis; Howard Eaton Lighting Ltd.; P; CP

Visitors:

Doug Fleenor; Doug Fleenor Design

1 Opening remarks

Maya Nigrosh called the meeting to order at 9:02 a.m. Mountain Time. She welcomed everyone to Salt Lake City and thanked those present for being present. WebEx etiquette was briefly discussed and it was noted that those present online will be voting via the chat window.

Michael Lay added a special thanks to Milton Davis for getting ESTA such a great discount on the new WebEx microphones, and for generously donating one of the them. Michael Lay noted that the naming rights on five more microphones are still available at \$75.00 each.

2 Attendance

2.1 Introductions of those physically present and circulation of attendance sheet

As self-introductions went clockwise around the table, a yellow sign-in sheet followed.

2.2 Introductions of those present via WebEx

Michael Lay introduced those online and then most of them introduced themselves.

2.3 Determination of a quorum

By a count of raised hands in the room, raised WebEx hands, and responses in the chat window, a supermajority and quorum were announced present by Maya Nigrosh.

2.4 Recognition of alternate voting members

John Huntington was recognized as an Alternate voter voting today for IATSE Local 1.

3 Membership

3.1 Requirements for membership, *new*

The following statement was read aloud to the assembly by Maya Nigrosh:

Membership is open to all who are affected by the work of the group. People and companies that would be in any interest category other than a manufacturer interest category are, at this time, particularly encouraged to apply for membership. There is an annual \$100 participation fee for all members. Voting members are required to attend meetings and to vote on letter ballots. Voting members and their alternates may not miss three consecutive meetings without a loss of voting status.

3.2 Changes to observer status due to lack of attendance

There were no voters changed to Observer status due to lack of attendance. Voters in jeopardy were present.

3.3 Processing of new membership requests and changes in membership status:

As of 1 March 2016, the following applications were completed:

Jon Hole; Zero 88; Eaton; P; CP

Ed Condit; change of representation from himself to OSRAM; O; MP

Darryl Ross; TMB; P; CP

Daniel Murfin; Royal National Theatre; P; U

Dan Lisowski moved to approve the applications. The motion was seconded by a discussion about whether or not the applicants for voting status would be approved as Observers due to lack of attendance. Peter Willis spoke in favor of approving the applicants with the voting status specified on the applications. Karl Ruling explained that this has been done before, and there is nothing in the Policies and Procedures to prohibit a motion to accept these applicants as voters. The motion was put to vote and carried by a show of hands and online votes, with one abstention and no opposition.

3.4 Consensus body

The full consensus body of this working group at the time of this meeting, including those not present, was:

Name	Representing	Voting status	Interest category
Kevin Loewen	Acuity Brands Inc.	P	MP
Robert Bell	Acuity Brands Inc.	A	MP
Gary Douglas	Acuity Brands Inc.	A	MP
Maurits van der Hoorn	Acuity Brands Inc.	A	MP
Adam De Witt	Adept Anomaly	I	U
Jonathan Kemble	Barco	P	MP

Name	Representing	Voting status	Interest category
Bill Ellis	Candela Controls, Inc.	P	DE
Brent Boulnois	Candela Controls, Inc.	A	DE
Jim Ohrberg	Candela Controls, Inc.	A	DE
Jason Potterf	Cisco	P	MP
Paul Kleissler	City Theatrical, Inc.	P	MP
Larry Schoeneman	DesignLab Chicago, Inc.	P	DR
Milton Davis	Doug Fleenor Design, Inc.	P	MP
Ian Campbell	Doug Fleenor Design, Inc.	A	MP
Ulrich Kunkel	E3 Engineering & Education for Entertainment GmbH	P	U
Jon Hole	Eaton	P	MP
Daniel W. Antonuk	Electronic Theatre Controls, Inc.	P	MP
Steve Terry	Electronic Theatre Controls, Inc.	A	MP
Maya Nigrosh	Electronic Theatre Controls, Inc.	A	MP
Edward A. (Ted) Paget	Electronic Theatre Controls, Inc.	A	MP
Scott M. Blair	Full Throttle Films/ VER	P	DR
Jeremy Hochman	Full Throttle Films/ VER	A	DR
Claude Ostin	Full Throttle Films/ VER	A	DR
Robert Goddard	Goddard Design Co.	P	MP
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
Roger Lattin	I.A.T.S.E. Local 728	P	U
Alan M. Rowe	I.A.T.S.E. Local 728	A	U
Ken Vannice	Ken Vannice LLC	I	G
Tyrone Mellon_Jr.	Lex TM3	P	CP
Joshua Liposky	Lex TM3	A	CP
Michael Karlsson	LumenRadio AB	P	MP
Marcus Bengtsson	LumenRadio AB	A	MP
Simon Newton	Open Lighting Project	P	G
Charles Reese	Production Resource Group	P	DR
Daniel Murfin	Royal National Theatre	P	U
Michael Lay	Royal Philips	P	MP
Kimberly Corbett Oates	Schuler Shook	P	DE
Andrew Frazer	Stellascapes.com	P	MP
Darryl Ross	TMB	P	MP

Name	Representing	Voting status	Interest category
Dan Lisowski	University of Wisconsin - Madison	P	DE
Dane Styczynski	University of Wisconsin - Madison	A	DE
Mitch Hefter	USITT	P	U
Paul Beasley	Walt Disney Company	P	U
Voting Status Key: P = Principal voter, A = Alternate voter, I = Individual voter			
Votes by Interest Category:			
Custom-market producer		CP	2
Designer		DE	3
Dealer or rental company		DR	3
General interest		G	2
Mass-market producer		MP	12
User		U	7
Total votes possible:			29

4 Approval of the minutes from the previous meeting

See *CPmin01-2016.pdf*

Maya Nigrosh asked everyone to check the contact and task group information from the previous minutes. Members were told to contact Karl and Erin with changes. Mitch Hefter moved to approve the minutes as drafted. The motion was seconded and approved by a show of hands and online votes, with two abstentions.

5 Reading of the call for patents

The following statement was read aloud to the assembly by Maya Nigrosh:

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 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 reported.

6 Reading of the anti-trust statement

The following statement was read aloud to the assembly by Maya Nigrosh:

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 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 a ESTA meeting, please bring your concern to ESTA management. An easy to read pamphlet describing the antitrust laws is available from the ESTA staff.

Erin Grabe and Karl Ruling held up copies of the pamphlets. Nothing was revealed.

7 Approval of agenda

Dan Lisowski requested that item 8.13 be moved to the top of the agenda, due to an overlapping commitment. Bill Ellis moved to approve the agenda as amended. The motion was seconded and approved by a show of hands and online votes with no opposition and no abstentions.

8 Old business

8.1 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 for discussion.*

* 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 2021)

ANSI E1.11 – 2008 (R2013), Entertainment Technology - USITT DMX512-A, Asynchronous Serial Digital Data Transmission Standard for Controlling Lighting Equipment and Accessories. (Revision, reaffirmation, or withdrawal by 2018)

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

* ANSI E1.20 - 2010, Remote Device Management over USITT DMX512. (Revision, reaffirmation or withdrawal by 2016)

* ANSI E1.27-1 – 2006 (R2011), Entertainment Technology - Standard for Portable Control Cables for Use with USITT DMX512/1990 and E1.11 (DMX512-A) Products. (Revision, reaffirmation or withdrawal by 2016)

ANSI E1.27-2 – 2009 (R2014), 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 2019)

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

ANSI E1.30-3 – 2009 (R2014), EPI 25, Time Reference in ACN Systems Using SNTP and NTP. (Revision, reaffirmation, or withdrawal by 2019)

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

ANSI E1.30-10 – 2009 (R2014), EPI 32, Identification of Draft Device Description Language Modules. (Revision, reaffirmation, or withdrawal by 2019)

* ANSI E1.31, Lightweight streaming protocol for transport of DMX512 using ACN (Revision, reaffirmation, or withdrawal by 2014)

ANSI E1.37-1 - 2012, Additional Message Sets for ANSI E1.20, Remote Device Management. (Revision, reaffirmation, or withdrawal by 2017)

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

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

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

8.1 (was 8.13) Positional data task group

Dan Lisowski reported that this study group had met in Dallas to quantify the plan. They are looking at a protocol intended to communicate positional data, which includes, but is not just, some, but not all, of the E1.44 data set. The sense is that it will be a streaming protocol similar to RDMnet. Milton Davis asked about using ACN, since it was designed to be extensible. Dan Lisowski replied that the group considered ACN, but felt it was too complex for the need.

He continued by saying that another informal meeting was happening later today to brainstorm more information, such as a media server company that could potentially be involved. It was noted that many in the automation industry were already on-board. The group plans to use an online meeting space to continue conversations between meetings. Peter Willis asked for clarification on the streaming capability, to which Dan Lisowski replied that the goal is to reference position, velocity, acceleration, and deceleration.

Scott Blair suggested reaching out to Nigel Sadler at Green Hippo and Peter Kirkup at D3 as helpful resources. Dan Lisowski said that a project request form would possibly be available for consideration by the next meeting.

8.2 ANSI E1.3 – 2001 (R2016), Entertainment Technology - Lighting Control Systems - 0 to 10V Analog Control Specification

Maya Nigrosh noted that the document was published and asked if there was any news.

8.3 ANSI E1.20 - 2010, Remote Device Management over USITT DMX512

Simon Newton reported that the group met in Texas and that many of the comments were resolved, but that there was work to be done yet.

8.4 ANSI E1.27-1 – 2006 (R2011), Entertainment Technology - Standard for Portable Control Cables for Use with USITT DMX512/1990 and E1.11 (DMX512-A) Products

See E1-27-1_2006_R201x_ApprvdResol.pdf.

The approved comment resolution was sent to Peter Willis on 11 Feb with a 30-day deadline to respond (12 March 2016). A TSC ballot was issued concurrent with that 30-day time-frame.

Karl Ruling noted that the TSC ballot closed with the required supermajority and that no objection was received from the commenter. The ballot is on its way to the Executive Committee.

8.5 ANSI E1.30-1 – 2010 (R2016), EPI 23, Device Identification Subdevice

Maya Nigrosh noted that the document was published. There was no further news.

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

On 17 February 2016, ANSI's BSR approved the withdrawal of this standard. Should the document be removed from the website, or marked WITHDRAWN and left available?

Simon Newton spoke in favor of marking the document withdrawn and leaving it available on the TSP website. Peter Willis agreed and made a motion to mark the document withdrawn, but continue to leave it available for download. The motion was seconded and approved by a show of hands and online votes with no opposition or abstentions.

8.7 BSR E1.30-11, EPI 33, Transport of root PDUs over TCP

Simon Newton reported that this document is still staying in holding pattern until E1.33 is complete.

8.8 BSR E1.31 with Universe Synchronization and Universe Discovery

See E1-31_2ndRevwApprvdResols.pdf.

The draft standard is in public review through the end of the day 11 April 2016. Approved resolutions were sent to commenters with a deadline to respond, the end of the public review.

In response to comments sent by Andrew Frazer regarding channel expansion, Maya Nigrosh said that the plan is to get the current draft published so that the benefits of universe discovery are available to the world, and then to immediately reopen the document to address IPv6 and channel expansion. Maya Nigrosh thanked Andrew Frazer for the comments provided.

8.9 BSR E1.33, Transport of ANSI E1.20 (RDM) in an E1.31 environment

See E1-33_4thRevwApprvdResols.pdf.

Maya Nigrosh said that the draft standard is in public review through the end of the day 11 April 2016 and that approved resolutions were sent to commenters with a deadline to respond, the end of the public review. She noted that Andrew Frazer was added to the E1.33 task group reflector.

8.10 BSR E1.37-4, Firmware updates via ANSI E1.20, RDM

Peter Willis reported that the project is on-going and that he missed the last meeting cycle. There is still work to be done in rolling LDI discussions into a new document. The task group is scheduled to meet during the July cycle.

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

The task group has proposed splitting BSR E1.37-5 into three documents: E1.37-5, E1.37-6, and E1.37-7. See the combined request form for the additional two projects, E1-37-6and7_TSP_ProjectRequest.pdf.

Simon Newton reported that the task group is proposing to split the current document into three. A benefit of the split is that splitter and gateway PIDs are pulled out, so that there is no duplication across E1.33. Michael Lay said that the TSC pre-approved the project request form at their meeting.

Peter Willis asked about parameter description PIDs. Scott Blair and Simon Newton both noted that the plan was not to roll everything into 1.20, but to keep any additional PIDs in the E1.37-x extensions. Simon Newton spoke in favor of removing the PIDs from E1.20 and Scott Blair spoke in favor of deprecating the PIDs in E1.20. Maya Nigrosh said that it may be best to leave the project as stand-alone.

Simon Newton then moved to approve the project requests and the motion was seconded. The motion carried by a show of hands and online votes, with opposition from Peter Willis and no abstentions.

Maya Nigrosh announced that Simon Newton would lead E1.37-5 and -6, while Scott Blair would lead the E1.37-7 project. Scott Blair said that the PIDs are stable, but there is an immediate need to have a document so as to not hold up E1.33.

8.12 E1.37-x, Additional Message Sets for ANSI E1.20, LED walls and video displays

Scott Blair reported that there is no news, yet.

8.13 IPv6 task group report

Documents in order of priority for IPv6 consideration:

- E1-31-2009 -Entertainment Technology –Lightweight streaming protocol for transport of DMX512 using ACN
- E1.17 -Entertainment Technology -Architecture for Control Networks (ACN)
Elements of E1.17 depended on by E1.31 must be addressed as a high priority
- E1.37-2-2015 Entertainment Technology –Additional Message Sets for ANSI E1.20 (RDM) –Part 2, IPv4 & DNS Configuration Messages
Important for E1.33, but does not block E1.33 progress
Implement as revision of this document, or all new document?
- E1.17 -Entertainment Technology -Architecture for Control Networks (ACN)
Elements not depended on by E1.31 can be addressed as a lower priority

Jason Potterf said that there is not much to report. The first item on the IPv6 agenda needs to be published and then opened before work can begin.

8.14 European Plugfest

Peter Willis reported that the EU Plugfest is to be held on 20-22 April 2016 at the same location as previous events, near Gatwick airport. He noted a healthy sign-up already and said that information may be found on website, plasa.org/rdm.

8.15 Texas Plugfest

Eric Johnson said that the last event was well received and reported four newcomers. Michael Lay spoke to the Plugfest marketing meeting immediately following this CPWG meeting. Plugfest 2017 dates are not known, but a tentative weekend was picked and will be announced as soon as possible.

8.16 Task group leader coordination

Any changes or additions to the list below?

BSR E1.30 No single leader; Generic group

BSR E1.31 Maya Nigrosh

BSR E1.37-4 Peter Willis

BSR E1.20 Simon Newton

BSR E1.33 Dan Antonuk and Scott Blair

BSR E1.30-11, EPI 33 Simon Newton

BSR E1.37-2 Simon Newton

BSR E1.37-5 Simon Newton

BSR E1.37-6 Simon Newton

BSR E1.37-7 Scott Blair

E1.37-x Video Walls Scott Blair

IPv6 Task Group Jason Potterf

Plugfest Task Group Michael Lay

Positional Data Study Group Dan Lisowski and Maya Nigrosh

9 New business

9.1 AUS Plugfest

Andrew Frazer said shared with the group that an informal meeting in May is being planned in Melbourne. He noted that the event is not necessarily a true Plugfest, but that it has potential to become one. It was asked that he share any information with the group when it is available.

9.2 Other new business

No other new business.

10 Other business & announcements

10.1 Above & Beyond Awards

Maya Nigrosh said some of us are deserving of recognition and that the Above and Beyond Award is a way to highlight your peers. Past recipients and the nomination form are at <http://estalink.us/aboveandbeyond>.

10.2 PLASA DMX512/RDM Educational Kit - "Train the Trainer" Session

Nothing to report, said Bill Ellis. Michael Lay noted that there are talks at the ESTA administration level to provide experts for content at various events. John Huntington offered space to store the kit in New York, if necessary.

10.3 TSP sessions at LDI 2016

Bill Ellis and Peter Willis agreed to tag-team an advanced session on E1.20, RDM. Scott Blair, Simon Newton, and Dan Antonuk / Maya Nigrosh offered to present on E1.33. Roger Lattin volunteered his services and support for sessions.

10.4 USITT sessions

Peter Willis and Maya Nigrosh are presenting in Room 155c (was actually 155f) after this meeting.

Kimberly Corbett Oates said to put together a session list for the January 2017 meetings to present at 2017 USITT for production at USITT 2018 in Fort Lauderdale, FL.

11 Future meetings

11.1 July 2016 meetings in conjunction with NATEAC

Maya Nigrosh noted that the July 2016 meetings will be held in conjunction with NATEAC in New York City. The CPWG meeting is scheduled for 9am-1pm ET on 14 July 2016. The conference dates are 17-18 July 2016.

12 Adjournment

Roger Lattin moved to adjourn. The motion was seconded. Hearing no objections, Maya Nigrosh declared the meeting adjourned at 10:23 a.m. Mountain Time.

Name	Company	Representing	Voting status	Int cat
Daniel W. Antonuk	Electronic Theatre Controls, Inc.	Electronic Theatre Controls, Inc.	P	MP
Matthew Ardine	IATSE Local 728	IATSE Local 728	O	U
Robert Barbagallo	Solotech Inc.	Solotech Inc.	O	U
Paul Beasley	Walt Disney Imagineering	Walt Disney Company	P	U
Robert Bell	Acuity Brands Lighting	Acuity Brands Inc.	A	MP
Marcus Bengtsson	LumenRadio AB	LumenRadio AB	A	MP
Adam Bennette	Electronic Theatre Controls Ltd.	Electronic Theatre Controls, Inc.	O	MP
Scott M. Blair	Full Throttle Films/ VER	Full Throttle Films/ VER	P	DR
Lee J. Bloch	Bloch Design Group, Inc.	Bloch Design Group, Inc.	O	G
Ron Bonner	PLASA Technical Resources Office	PLASA EU	O	G
Brent Boulnois	Candela Controls, Inc.	Candela Controls, Inc.	A	DE
Justyn Butler	JBOTS	JBOTS	O	CP
Ian Campbell	Doug Fleenor Design, Inc.	Doug Fleenor Design, Inc.	A	MP
Jean-Francois Canuel	Spectrum Manufacturing Inc.	A.C. Lighting Ltd.	O	CP
Steve Carlson	High Speed Design, Inc.	High Speed Design, Inc.	O	MP
Jon Chuchla	Audio Visual Systems, Inc.	Audio Visual Systems, Inc.	O	G
Edward R. Condit	OSRAM Lighting Solutions	OSRAM Licht AG	O	G
Milton Davis	Doug Fleenor Design, Inc.	Doug Fleenor Design, Inc.	P	MP
Jeremy Day	Lumenpulse Lighting Inc.	Lumenpulse Lighting Inc.	O	MP
Larry Dew	W.A. Benjamin Electric Co.	W.A. Benjamin Electric Co.	O	DE
Gary Douglas	Pathway Connectivity	Acuity Brands Inc.	A	MP
Tucker Downs	Tucker Downs	Tucker Downs	O	U
Hamish Dumbreck	JESE Ltd.	James Embedded Systems Engineering	O	MP
Lauren E. Dunn	Lauren E. Dunn (Larry)	Lauren E. Dunn (Larry)	O	DE
James Eade	ABTT	ABTT	O	G
Bill Ellis	Candela Controls, Inc.	Candela Controls, Inc.	P	DE
Paul K. Ericson	Sparling	Stantec	O	DE
Trevor Forrest	Helvar Lighting Control	Helvar Lighting Control	O	MP
Andrew Frazer	Stellascapes.com	Stellascapes.com	P	MP
Ed Garstkiewicz	Harting Inc., North America	Harting KGAA	O	G
Philip Gartner	AusChristmasLighting	AusChristmasLighting	O	U
Robert Goddard	Goddard Design Co.	Goddard Design Co.	P	MP
Jerry Gorrell	Theatre Safety Programs	Theatre Safety Programs	O	G
Erin Grabe	ESTA	ESTA	exf	G
Sean Harding	Port Lighting Systems	Port Lighting Systems	O	G
Mitch Hefter	Mitch Hefter	USITT	P	U
Bill Hewlett	ImageCue LLC	ImageCue LLC	O	MP

Name	Company	Representing	Voting status	Int cat
Jeremy Hochman	Full Throttle Films/ VER	Full Throttle Films/ VER	A	DR
Jon Hole	Zero 88	Eaton	P	MP
Jim Holladay	Luxence	Luxence	O	G
Maurits van der Hoorn	Pathway Connectivity	Acuity Brands Inc.	A	MP
Wayne David Howell	Artistic Licence Engineering Ltd.	Artistic Licence Holdings	O	DE
John Huntington	City Tech, Ent Tech Department	I.A.T.S.E. Local 1	A	U
Eric Johnson	Eric Johnson	Eric Johnson	O	G
Rob Johnston	Interactive Technologies, Inc.	Interactive Technologies, Inc.	O	MP
Tyrone Mellon_Jr.	Lex Products	Lex TM3	P	CP
Michael Karlsson	LumenRadio AB	LumenRadio AB	P	MP
Jonathan Kemble	High End Systems	Barco	P	MP
Paul Kleissler	City Theatrical, Inc.	City Theatrical, Inc.	P	MP
Edwin S. Kramer	I.A.T.S.E. Local 1	I.A.T.S.E. Local 1	P	U
Ulrich Kunkel	E3 Engineering & Education for Entertainment GmbH	E3 Engineering & Education for Entertainment GmbH	P	U
Jason Kyle	JPK Systems Ltd.	JPK Systems Ltd.	O	MP
Roger Lattin	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	P	U
Michael Lay	Philips Color Kinetics	Royal Philips	P	MP
Hans Leiter	ETC GmbH	Electronic Theatre Controls, Inc.	O	MP
Jon Lenard	Applied Electronics	Applied Electronics	O	MP
Sang-Kyu Lim	ETRI	Electronics and Telecommunications Research Institute	O	G
Joshua Liposky	Lex Products	Lex TM3	A	CP
Dan Lisowski	Dept. Of Theatre and Drama	University of Wisconsin - Madison	P	DE
Kevin Loewen	Pathway Connectivity	Acuity Brands Inc.	P	MP
John Mehlretter	Lehigh Electric Products Co.	Lehigh Electric Products Co.	O	MP
Jeff T. Miller	Worldwide Standards and Auditing	Walt Disney Company	O	U
Daniel Murfin	Royal National Theatre	Royal National Theatre	P	U
John Musarra	John Musarra	John Musarra	O	U
Simon Newton	Open Lighting Project	Open Lighting Project	P	G
Maya Nigrosh	Electronic Theatre Controls, Inc.	Electronic Theatre Controls, Inc.	A	MP
Kimberly Corbett Oates	Schuler Shook	Schuler Shook	P	DE
Jim Ohrberg	Candela Controls, Inc.	Candela Controls, Inc.	A	DE
Danilo Oliveira	Chauvet Lighting	Chauvet Lighting	O	MP
Claude Ostyn	Full Throttle Films/ VER	Full Throttle Films/ VER	A	DR
Edward A. (Ted) Paget	Electronic Theatre Controls, Inc.	Electronic Theatre Controls, Inc.	A	MP
Jason Potterf	Cisco	Cisco	P	MP
Gary Pritchard	LSC Lighting Systems (Aust) PTY Ltd	LSC Lighting Systems PTY Ltd	O	MP
Charles Reese	Production Resource Group	Production Resource Group	P	DR

Name	Company	Representing	Voting status	Int cat
Darryl Ross	TMB	TMB	P	MP
Alan M. Rowe	IATSE Local 728	I.A.T.S.E. Local 728	A	U
Karl G. Ruling	ESTA	ESTA	exf	G
Yngve Sandboe	Sand Network Systems, Inc.	Sand Network Systems, Inc.	O	MP
Nicolai Gubi Schmidt	Gobo & Highlight A/S	Gobo & Highlight A/S	O	DR
Larry Schoeneman	DesignLab Chicago, Inc.	DesignLab Chicago, Inc.	P	DR
Ford Sellers	Chauvet Lighting	Chauvet Lighting	O	MP
Ralph Stillinger	Strand Lighting	Royal Philips	O	MP
Dane Styczynski	Dept. Of Theatre and Drama	University of Wisconsin - Madison	A	DE
Steve Terry	Electronic Theatre Controls	Electronic Theatre Controls, Inc.	A	MP
Christopher Tilton	Westlake Reed Leskosky	Westlake Reed Leskosky	O	DE
Robert Timmerman	Philips Color Kinetics	Royal Philips	O	MP
James Tomlinson	Team Tomlinson	Team Tomlinson	O	G
Tracy Underhill	4U Consulting	4U Consulting	O	G
Steve Unwin	Pulsar Ltd.	Pulsar Ltd.	O	MP
Ken Vannice	Ken Vannice LLC	Ken Vannice LLC	I	G
Carlo Venturati	Clay Paky S.P.A.	Clay Paky S.P.A.	O	MP
Will Wagner	Carallon Ltd.	Carallon Ltd.	O	MP
Oliver Waits	Avolites Ltd.	Avolites Ltd.	O	MP
Colin Waters	TMB	TMB	O	DR
Ralph Weber	ENDL Texas	ENDL Texas	O	G
Peter Willis	Howard Eaton Lighting Ltd.	Howard Eaton Lighting Ltd.	P	CP
Loren Wilton	Showman Systems	Showman Systems	O	CP
Adam De Witt	Adept Anomaly	Adept Anomaly	I	U
David Yellin	LightMinded Industries, Inc.	LightMinded Industries, Inc.	O	MP

Voting status key: P = Principal voter, A = Alternate voter, I = Individual voter, O = Observer member, exf = Ex Officio member (staff)

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