

Minutes
Control Protocols Working Group
Saturday, 30 January 2016
D/FW Marriott Solana
Westlake, Texas

Presiding chairpersons:

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

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

Members in attendance:

Scott M. Blair; Full Throttle Films/ VER; P; DR
Milton Davis; Doug Fleenor Design, Inc.; A; MP
James Eade; ABTT; O; G
Bill Ellis; Candela Controls, Inc.; P; DE
Andrew Frazer; Stellascapes.com; P; MP
Robert Goddard; Goddard Design Co.; P; MP
Mitch Hefter; Mitch Hefter; USITT; P; U
John Huntington; City Tech, Ent Tech Department; I.A.T.S.E. Local 1; A; U
Tyrone Mellon_Jr.; Lex Products; Lex TM3; P; CP
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
Roger Lattin; I.A.T.S.E. Local 728; P; U
Simon Newton; Open Lighting Project; P; G
Kimberly Corbett Oates; Schuler Shook; P; DE
Jason Potterf; Cisco; P; MP
Dane Styczynski; Dept. Of Theatre and Drama; University of Wisconsin - Madison; A; DE
Ken Vannice; Ken Vannice LLC; I; G
Adam De Witt; Adept Anomaly; I; U

Visitors:

Richard Cadena; Academy of Production Technology
Steve Vanciel; IATSE Local 631

1 Opening remarks

Michael Lay called the meeting to order at 9:05 a.m. He reminded everyone that there are people attending via WebEx. Michael mentioned that Maya Nigrosh is going to live chat the agenda to the online attendees and will respond to any problems or questions entered in chat.

2 Attendance

2.1 Introductions of those physically present and circulation of attendance sheet

A yellow attendance sheet was circulated around the room to sign while self-introductions took place.

2.2 Introductions of those present via WebEx

Maya Nigrosh introduced the members joining remotely.

2.3 Determination of a quorum

Michael Lay declared a supermajority present by a count of voters raised hands in the room and on WebEx.

2.4 Recognition of alternate voting members

Milton Davis was recognized as an Alternate voter.

3 Membership

3.1 Requirements for membership, *new*

The following statement was read aloud to the assembly by Michael Lay:

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

Michael Lay announced that there were no members in jeopardy of a change in status due to lack of attendance.

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

As of 11 January 2016, the following applications were completed:

Danilo Oliveira; Chauvet Lighting; O; MP

Requests for change in interest category and employer:

Bill Hewlett: from Hewlett Electronics to ImageCue LLC; O; CP to MP

Scott Blair moved to accept these membership requests and changes. The motion was seconded and approved by a show of hands both in the room and online, with no objections or abstentions.

Michael Lay noted that the following members were removed on request:

Erwin Rol; Erwin Rol; O; G
Geoff Thompson; IEEE 802.3/Nortel Networks; O; G
Gilray Densham; CAST Group Inc.; O; MP
Lars Wernlund; Capture Visualization AB; O; MP
Paul Mardon; Pulsar Ltd.; O; MP
Sang-Il Choi; Kyungpook National University; O; G
Steve Tyrrell; Quantum Logic; O; MP
Joshua Moyerman; Stellascapes.com; A; MP
Fraser Connolly; Artistic Licence Holdings; O; DE
Jerry Durand; Durand Interstellar; O; CP
Rob Tooker; O; U
Ben Peoples; Pittsburgh Hoist & Sandbag Company; O; CP
Rick Leinen; Leviton Manufacturing Co., Inc.; O; MP

Michael Lay noted that the following members were removed due to emails bouncing back:

Torben Kaas Rasmussen; Martin Professional A/S; O; G
Andrew Sherar; Lightmoves PLC; O; MP
Ashley Simper; TMB; O; DR

Michael Lay took a moment to ask all present to double-check their interest category and report any changes.

3.4 Consensus body

The 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

Name	Representing	Voting status	Interest category
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
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
Harrison Hohnholt	City Theatrical, Inc.	A	MP
Andrew Nikel	City Theatrical, Inc.	A	MP
Larry Schoeneman	DesignLab Chicago, Inc.	P	DR
Doug Fleenor	Doug Fleenor Design, Inc.	P	MP
Milton Davis	Doug Fleenor Design, Inc.	A	MP
Ian Campbell	Doug Fleenor Design, Inc.	A	MP
Ulrich Kunkel	E3 Engineering & Education for Entertainment GmbH	P	U
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 Ostyn	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
Hans Lau	LumenRadio AB	A	MP

Name	Representing	Voting status	Interest category
Simon Newton	Open Lighting Project	P	G
Peter Newman	Open Lighting Project	A	G
Charles Reese	Production Resource Group	P	DR
Michael Lay	Royal Philips	P	MP
Kimberly Corbett Oates	Schuler Shook	P	DE
Andrew Frazer	Stellascapes.com	P	MP
Dan Lisowski	University of Wisconsin - Madison	P	DE
Dane Styczynski	University of Wisconsin - Madison	A	DE
Mitch Heffer	USITT	P	U
Paul Beasley	Walt Disney Company	P	U
Randy L. Fox	Walt Disney Company	A	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	10
User		U	6
Total votes possible:			26

4 Approval of the minutes from the previous meeting

Michael Lay noted that changes to the October draft minutes were proposed as below, see CPmin10-2015r2.pdf for revised version.

From Simon Newton:

8.7 Simon Newton said that using ~~withdrawing~~ this standard...

From Peter Willis:

8.13 typo - "begin" should presumably read "being".

8.13 Simon Newton moved to offer the document for another public review. The motion was seconded and approved with Peter Willis opposed and no abstentions.

8.16 Hamish Dumbreck noted that the 2016 EU Plugfest and Developers conference was booked for Gatwick Manor, near Gatwick Airport in the UK, the same venue as used for several previous sessions. The EU Plugfest is scheduled for 20-22 April, a Wednesday through Friday, and will run along same format as previously. Whether the Plugfest is under PLASA or ESTA, Hamish said that it is happening. Peter Willis spoke to John Simpson's support of the Plugfest and that it be done under the PLASA banner.

9.1 Maya Nigrosh offered the group a brief summary of the letter from the TSC co-chairs and asked if there were any questions. There were none.

Spelling errors submitted by multiple people were also fixed.

Scott Blair moved to approve the minutes as amended. The motion was seconded and approved with a show of hands and voice votes by those present and on WebEx, with one abstention.

5 Patents

5.1 Reading of the NEW call for patents

The following statement was read aloud to the assembly by Michael Lay:

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

In keeping with the open disclosures policy, I ask if anyone present wishes to notify this working group of the existence of a patent, patent application, copyright, or other 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.

Scott Blair asked what was “new” in the call for patents text. Erin Grabe explained that “patent applications” had been added some time ago, but that the recent change was changing “PLASA” to “ESTA.” Nothing else was reported.

6 Reading of the NEW anti-trust statement

The following statement was read aloud to the assembly by Michael Lay:

ESTA and its members take seriously their obligation to comply with all applicable antitrust laws. Therefore, during this meeting and during all ESTA events, all discussions will be limited to those subjects that are permitted by the antitrust laws. All members should refrain from any discussion or mention of competitively sensitive subjects such as the current or future prices charged for any member product or services, current or future marketing plans or strategies, and current or future costs, including employee salaries. There also must be no agreement on the suppliers or customers that members will 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 held up the pamphlet. Nothing was reported.

7 Approval of agenda

Scott Blair moved to approve the agenda as drafted. The motion was seconded and unanimously approved by a show of hands, both live and online, with no objections or abstentions.

8 Old business

8.1 Standards, Guides & Recommended Practice Maintenance

Michael Lay asked the group if there were any other projects from the list below needing discussion, other than those already marked for discussion. *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 (R2011), 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 2016)

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, EPI 23, Device Identification Subdevice. (Revision, reaffirmation or withdrawal by 2016)

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 E1.30-7 – 2009, EPI 29, Allocation of Internet Protocol Version 4 Addresses to ACN Hosts. (Revision, reaffirmation, or withdrawal by 2014)

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

8.2 ANSI E1.3 – 2001 (R2011), 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

The motion to reaffirm carried in the working group and has been forwarded to the TSC for approval. We are now waiting on the TSC for action on this item, Michael Lay reported.

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

A PINS for revision was filed on 2 November 2015.

Simon Newton reported that the task group has been working through the 100-odd requests for enhancements. They are confident that any upgrades or changes will be backwards compatible with the current version of RDM.

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

Michael Lay noted that one comment was received regarding the use of PLASA versus ESTA and offered the group the following draft resolution:

Comment: Only comments are that non-substantive changes to reflect PLASA/ESTA reversion are desirable.

Proposed resolution : Accept.

Thank you for your comment addressing non-substantive changes that do not pertain to the content of the standard.

For each draft standard, or American National Standard intended to be reaffirmed, changes pertaining to information on the cover page, informational front-pages, copyright, and all other association references needing to be amended, will be addressed by staff before publication.

The group briefly considered the resolution and Michael Lay asked if there was any discussion. Eddie Kramer moved to accept the comment resolution as drafted. The motion was seconded and approved by show of hands and votes via WebEx chat.

8.5 ANSI E1.30-1 - 2010, EPI 23, Device Identification Subdevice

The motion to reaffirm carried in the working group and is being forwarded to the TSC for approval, reported by Michael Lay.

8.6 BSR E1.30-7 – 2009 (R201x), EPI 29, Allocation of Internet Protocol Version 4 Addresses to ACN Hosts

The motion for withdrawal carried and is being forwarded to the TSC for approval, noted Michael Lay.

8.7 BSR E1.30-11, EPI 33

From the draft October minutes:

Simon Newton said that E1.30-11 will have to change, but that it will have to wait for E1.33.

Simon Newton said that there was nothing new to report.

8.8 BSR E1.31 with Universe Synchronization and Universe Discovery

See BSRE1-31_2ndRevwDraftResols.pdf and BSR_E1-31-20xx_CP-2014-1009r2.pdf.

Maya Nigrosh reported that the draft resolutions and revised draft standard were submitted to the group for consideration and asked if there was to be a motion to approve the resolutions. Mitch Hefter moved that the comment resolutions be approved. The motion was seconded and approved by a show of hands and votes via WebEx chat, receiving the required supermajority approval.

Scott Blair moved that the revised draft be offered for public review. The motion was seconded. The motion was approved with a combination of raised hands, voice votes, and WebEx raised hands with no objections or abstentions.

The task group feels that the implementation of IPv6 in E1.31 will happen in the next revision, which the task group will begin after this version has been completed, reported Maya Nigrosh. The standard has immediate value now, and delaying it for IPv6 will be a net loss.

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

See E1-33_4thRevwDraftResols.pdf and the substantively revised BSRE1-33_CP-2010-1032r4.pdf.

Scott Blair noted that the new version supports IPv6 as well as IPv4. He moved that the comment resolution be approved as drafted. The motion was seconded and there was no discussion. The motion was approved by a show of hands (WebEx, too) and voice votes, with no objections or abstentions. The motion was approved with the required supermajority.

Scott Blair then moved that the revised draft be offered for a public review. The motion was seconded. The motion was approved by a show of hands (WebEx, too) and voice votes.

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

From the draft October minutes:

Peter Willis said that not much progress had been made since July. He noted that the task group will be discussing additional PIDs to allow wireless type links to report their characteristics.

Michael Lay reported that no formal report had been submitted, but there some discussion of what progress had been made at the task group meeting at LDI after the CPWG meeting. Michael Lay noted that he would email Peter Willis for a progress report. Simon Newton said that some PIDs had been agreed on, but now they need to be put into a document.

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

Comments were received and draft resolutions are needed.

Simon Newton reported that many of the comments are useful. There is a task group meeting this afternoon, but Simon Newton and Scott Blair noted that many of the people who had made comments will not be there, which may limit progress.

There was discussion of possible (or probable) overlap between this and E1.33. The task group will report on the approach they intend to recommend to the working group.

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

No work to date said Scott Blair and no further update.

8.13 Positional data task group

Dan Lisowski reported that the first study group meeting will be this afternoon. A few people from the Rigging Working Group will be involved. What they are proposing to achieve today is a sense of the way forward so that they can then draft a formal project proposal to submit to the Technical Standards Council for approval.

8.14 IPv6 task group report

Due to increased deployment of IPv6, the CPWG is prioritizing our most widely used protocols for near term IPv6 compliance. Jason Potterf reported, and shared some slides via WebEx. He started with explaining the technical advantages of IPv6 (way-more addresses and automatic configuration), and then added the big market driver: as of this year, Apple has announced intent to place requirements surrounding IPv6 compatibility in the App Store submission process that may affect implementers of ESTA protocols and block certain IPv4 only apps from the Apple App Store.

There was discussion of how much the existing E1 standards need to be changed and how they would be changed to be IPv6 compliant. Jason Potterf outlined a fairly optimistic assessment of what would need to be changed, see *ESTA_IPv6_Compliance_Strategy.pdf* shared by Jason Potterf during the meeting.

8.15 European Plugfest

From the draft October minutes:

Hamish Dumbreck noted that the venue was booked for the EU Plugfest, 20-22 April, a Wednesday through Friday, and that it will run along same format as previously. Whether the Plugfest is under PLASA or ESTA, Hamish said that it is happening. Peter Willis spoke to John Simpson's support of the Plugfest and that it be done under the PLASA banner.

There was no one available to update the group on the EU Plugfest. Ulrich Kunkel said that there is a Deutsche Theatertechnische Gesellschaft (DTHG) trade show in May and that there may also be Plugfest happening in conjunction.

8.16 Texas Plugfest

There are three new attendees, Chauvet, Gantom, and Blacktank, reported Scott Blair. Eric Johnson is working with them now, as we meet.

Michael Lay reported on the Plugfest Task Group, which met last night. He thanked everyone who participated, including Scott Blair, Maya Nigrosh, Eric Johnson, Simon Newton, and Bill Ellis.

Giving a synopsis of what transpired at the meeting, Michael Lay announced that there would be no July Plugfest, due to the logistical difficulty in arranging one in New York. An attempt will be made for future Plugfests to slant or theme the events, beginning with January 2017 where RDMnet and the revised sACN interoperability testing will be featured.

Other action items and ideas that came out of the meeting, Michael Lay added, were: the intention to coordinate a CPWG educational session for specifiers during the July NATEAC conference; and drafting a marketing plan for the Plugfest events, including email blasts, a Protocol article or ad, tweets, announcements in Standards Watch and the RDM forums, and a press release to industry contacts.

Some effort will be applied to add a more organized structure to the events, including a schedule with designated study-hall/free-time hours, a coordinated visitor's welcome, predetermined meal breaks, room proctor/staffing assignments, and consulting times. Work will also be done to establish and convey polite room-etiquette.

Michael Lay concluded the synopsis of the task group meeting by saying that, for 2017, the cost of the Plugfest room may need to be subsidized, in the amount of approximately \$750.00, and that the task group may have to look into sponsorship or participation fees.

There was some discussion on problems with architectural lighting fixtures being non-compliant juxtaposed with purpose-built entertainment fixtures.

8.17 Task group leader coordination

Any changes or additions to the list below?

*BSR E1.30-7 Kevin Loewen and Scott Blair
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
E1.37-x Video Walls Scott Blair*

9 New business

9.1 TSP participation fee

Michael Lay asked those who have not paid the 2016 TSP participation fee to please log in and do so soon.

9.2 Other new business

No other new business.

10 Other business & announcements

10.1 Above & Beyond Awards

Michael Lay reminded the group that the nomination site is open year round at tsp.plasa.org/AboveandBeyond. Previous award recipients may be found under TSP News > Above & Beyond Awards, at http://tsp.esta.org/tsp/news/award_recipients.html.

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

Michael Lay said that the kit is sitting in Florida and that none of the leads for users have panned out. However, it will be used in New York in July.

10.3 TSP sessions at LDI 2016

Erin Grabe said that we don't know what we are required to supply because we are still in negotiations with Penton, the owners of the show. If sessions slots are available, the working groups will be the first to know.

10.4 USITT sessions

Dan Lisowski reported on the various sessions relevant to the CPWG planned for USITT 2016 in Salt Lake City. Michael Lay requested that this information be forwarded to him for inclusion in the CPWG USITT agenda, so that members with interest in those sessions were aware of their scheduling.

Maya Nigrosh will be giving a talk immediately after the USITT CPWG meeting. Peter Willis is scheduled to participate in that talk.

11 Future meetings

11.1 USITT 2016

Michael Lay reminded the group that the March 2016 meeting is tentatively scheduled for Thursday, 17 March 2016, from 9am-1pm at the Salt Lake City Downtown Marriott, in conjunction with the 2016 USITT Conference. He asked how many were planning to attend, and many people signaled that they would be there.

There was some discussion of possible task group meetings at USITT.

11.2 July 2016 meetings in conjunction with NATEAC

Michael Lay reminded the group that the July 2016 meetings will be held in conjunction with NATEAC in New York City. Meeting dates are tentatively scheduled for 14-18 July, while the conference dates are 17-18 July 2016. He asked for a show of hands for people who would attend a meeting then, and the responses were predominantly positive, so he said we will have a meeting.

11.3 IES TM-23

Mitch Hefter added that IES TM-23, Lighting Control Protocols, was in revision and that it may be complete by Lightfair.

12 Adjournment

Scott Blair moved to adjourn. The motion was seconded. Hearing no objections, Michael Lay declared the meeting adjourned at 10:52.

Name	Company	Representing	Voting status	Int cat
Christian Allabauer	Lighting Innovations, Hermann Sorger GmbH	Lighting Innovations, Hermann Sorger GmbH	O	CP
Simon Alpert	Lighttech Event Technologies	Lighttech Event Technologies	O	CP
Klaus Amling	Licht-Technik	Licht-Technik	O	MP
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
David Bertenshaw	David Bertenshaw	David Bertenshaw	O	G
Stephen Bickford	T. Kondos Associates	T. Kondos Associates	O	U
Torrey Bievenour	Vision Quest Lighting	Vision Quest Lighting	O	G
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
David A. Boller	Organic Machines LLC	Organic Machines LLC	O	CP
Ron Bonner	PLASA Technical Resources Office	PLASA EU	O	G
Brent Boulnois	Candela Controls, Inc.	Candela Controls, Inc.	A	DE
Stef Bressers	MagicFX B.V.	MagicFX B.V.	O	MP
André Broucke	André Broucke	André Broucke	O	G
Ken Bruns	Lumenpulse Lighting Inc.	Lumenpulse Lighting Inc.	O	MP
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
Soo-Myong Chung	Bloch Design Group, Inc.	Bloch Design Group, Inc.	O	G
Paul J. Clark	HxDx	HxDx	O	CP
Edward R. Condit	Edward R. Condit	Edward R. Condit	O	G
Eric Cornwell	West Side Systems	West Side Systems	O	U
Stuart Cotts	Oregon Shakespeare Festival	Oregon Shakespeare Festival	O	U
Klas Dalbjorn	Labgruppen AB	TC Group	O	MP
Ben Darrington	Wireless Solutions Sweden AB	Wireless Solutions Sweden AB	O	MP
Milton Davis	Doug Fleenor Design, Inc.	Doug Fleenor Design, Inc.	A	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

Name	Company	Representing	Voting status	Int cat
Gary Dove	Dove Systems	Dove Systems	O	MP
Tucker Downs	Tucker Downs	Tucker Downs	O	U
Yongshun Duan	Macostar Physics Application Technology Development (Wuhan) Ltd.	Macostar International Ltd.	O	CP
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
Andrew Eales	Wellington Institute of Technology	Rhodes University	O	U
Matthew Earnshaw	acdc LED Ltd.	acdc LED Ltd.	O	MP
Bill Ellis	Candela Controls, Inc.	Candela Controls, Inc.	P	DE
Paul K. Ericson	Sparling	Stantec	O	DE
Jon R. Farley	Sixteenth Avenue Systems	Sixteenth Avenue Systems	O	CP
Martin Farnik	Robe Show Lighting s.r.o.	Robe Show Lighting s.r.o.	O	MP
Doug Fleenor	Doug Fleenor Design, Inc.	Doug Fleenor Design, Inc.	P	MP
Derek R. Flickinger	Interactive Homes, Inc.	Interactive Homes, Inc.	O	U
Trevor Forrest	Helvar Lighting Control	Helvar Lighting Control	O	MP
Howard Forryan	Harting Ltd.	Harting KGAA	O	G
Randy L. Fox	Walt Disney Company	Walt Disney Company	A	U
Andrew Frazer	Stellascapes.com	Stellascapes.com	P	MP
Steve Friedlander	Auerbach Pollock Friedlander	Auerbach Pollock Friedlander	O	U
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
Tom Grimes	High End Systems, Inc.	Barco	O	MP
Rob Halliday	Rob Halliday	Rob Halliday	O	U
Sean Harding	Port Lighting Systems	Port Lighting Systems	O	G
Mitch Hefter	Mitch Hefter	USITT	P	U
Douglas Heriot	Douglas Heriot	Douglas Heriot	O	MP
Bill Hewlett	ImageCue LLC	ImageCue LLC	O	MP
Jeremy Hochman	Full Throttle Films/ VER	Full Throttle Films/ VER	A	DR
Harrison Hohnholt	City Theatrical, Inc.	City Theatrical, Inc.	A	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

Name	Company	Representing	Voting status	Int cat
Il Soon JANG	ETRI	Electronics and Telecommunications Research Institute	O	G
Sierk Janszen	Kiss Box	Ground Zero	O	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
Jussi Kallioinen	Eastway Sound & Lighting	Eastway Sound & Lighting	O	U
Tae Gyu Kang	ETRI	Electronics and Telecommunications Research Institute	O	G
Michael Karlsson	LumenRadio AB	LumenRadio AB	P	MP
Jonathan Kemble	High End Systems	Barco	P	MP
Hyun Jong Kim	ETRI	Electronics and Telecommunications Research Institute	O	G
Hiroshi Kita	Marumo Electric Co., Ltd.	Marumo Electric Co., Ltd.	O	MP
Phil Klapwyk	IATSE Local 891	IATSE Local 891	O	U
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
Hans Lau	LumenRadio AB	LumenRadio AB	A	MP
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
Maarten Lepelaars	eldoLED	eldoLED	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
Mark Manthei	Shure Inc.	Shure Inc.	O	G
Mick Martin	ShowCAD Control Systems	ShowCAD Control Systems	O	MP
Paul Kenneth McEwan	Zero 88	Cooper Controls Ltd.	O	MP
Brian McKelvey	Brian McKelvey	Brian McKelvey	O	G
John Mehlretter	Lehigh Electric Products Co.	Lehigh Electric Products Co.	O	MP
Jeff T. Miller	Worldwide Standards and Auditing	Walt Disney Company	O	U
Avraham "Avi" Mendall Mor	Lightswitch	Lightswitch	O	U
John Musarra	John Musarra	John Musarra	O	U
Tobin Neis	Barbizon Companies	Barbizon Companies	O	DR

Name	Company	Representing	Voting status	Int cat
Peter Newman	Open Lighting Project	Open Lighting Project	A	G
Simon Newton	Open Lighting Project	Open Lighting Project	P	G
Dan T. Nguyen	LynTec	LynTec	O	MP
Maya Nigrosh	Electronic Theatre Controls, Inc.	Electronic Theatre Controls, Inc.	A	MP
Andrew Nikel	City Theatrical, Inc.	City Theatrical, 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
Lars F. Paape	Scientific Algorithms and Embedded Systems	Scientific Algorithms and Embedded Systems	O	U
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
Charlie Richmond	Richmond Sound Design Ltd.	Richmond Sound Design Ltd.	O	CP
Bernardo Benito Rico	Ben-Ri Electronica S.A.	Ben-Ri Electronica S.A.	O	MP
Steve Roberts	Carr & Angier	Carr & Angier	O	G
Dietmar Rottinghaus	Connex GmbH	Connex GmbH	O	MP
Alan M. Rowe	IATSE Local 728	I.A.T.S.E. Local 728	A	U
Karl G. Ruling	ESTA	ESTA	exf	G
Richard Salzedo	Avolites Ltd.	Avolites Ltd.	O	MP
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
Martin Searancke	Dream Solutions Ltd.	Dream Solutions Ltd.	O	MP
John Sellers	AIM Northwest	AIM Northwest	O	G
Ford Sellers	Chauvet Lighting	Chauvet Lighting	O	MP
Sean Sill	Open Lighting Project	Open Lighting Project	O	G
Storm K. Staley	Stormwerx	Stormwerx	O	U
Eckart Steffens	Soundlight, the DMX Company	Soundlight, the DMX Company	O	CP
Ralph Stillinger	Strand Lighting	Royal Philips	O	MP
Dane Styczynski	Dept. Of Theatre and Drama	University of Wisconsin - Madison	A	DE
Bart Swinnen	Luminex LCE	Luminex LCE	O	MP
Arnold Tang	Arnold Tang Productions	Arnold Tang Productions	O	U
Steve Terry	Electronic Theatre Controls	Electronic Theatre Controls, Inc.	A	MP
Christopher Tilton	Westlake Reed Leskosky	Westlake Reed Leskosky	O	DE

Name	Company	Representing	Voting status	Int cat
Robert Timmerman	Philips Color Kinetics	Royal Philips	O	MP
David Timmins	Jands Electronics	Jands Electronics	O	MP
Victoria Tisdale	Colby College	Google Summer of Code 2013	O	G
J. B. Toby	Avolites Ltd.	Avolites Ltd.	O	MP
James Tomlinson	Team Tomlinson	Team Tomlinson	O	G
Bob Toms	Catalyst Microsystems LLC	Catalyst Microsystems LLC	O	G
Tad Trylski	Tad Trylski	Tad Trylski	O	U
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
John Warwick	Philips Color Kinetics	Royal Philips	O	MP
Colin Waters	TMB	TMB	O	DR
Ralph Weber	ENDL Texas	ENDL Texas	O	G
Michael (Mike) Whetstone	Integrated Theatre, Inc.	Integrated Theatre, Inc.	O	CP
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
C. S. Wong	Macostar International Ltd.	Macostar International Ltd.	O	CP
Jiantong Wu	Beijing Special Engineering Design & Research Institute	Beijing Special Engineering Design & Research Institute	O	G
Kehang Wu	Shure Inc.	Shure Inc.	O	G
David Yellin	LightMinded Industries, Inc.	LightMinded Industries, Inc.	O	MP
Larry Zoll	Zoll Design & Consulting, LLC	Zoll Design & Consulting, LLC	O	U

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