

**Minutes**  
**Electrical Power Working Group**  
Wednesday, 29 March 2006  
Louisville Marriott Downtown  
Louisville, Kentucky

**Presiding chairman:** Ken Vannice; Colortran (Leviton Manufacturing Co., Inc.); P; MP

**Recording secretary:** Karl G. Ruling; ESTA

**Members attending:** James Davey; AC Power Distribution Inc.; A; CP  
George Long; Aggreko Event Services (Aggreko); P; DR  
Arnold Tang; Arnold Tang Productions; O; G  
Joe Boardman; Bender Inc. (Bender GmbH & Co. KG); A; MP  
Ian Foulds; IATSE Local 873, representing the Entertainment Electrical Safety  
Committee of Ontario; P; G  
Pat Miller; Hubbell Wiring Devices (Hubbell Inc.) ; P; MP  
Edwin S. Kramer; I.A.T.S.E. Local 1; P; U  
Roger Lattin; I.A.T.S.E. Local 728; P; U  
Keith S. Woods; Lakhri Impressions Ltd.; P; U  
Bob Luther; Lex Products Corp.; P; CP  
Kenneth M. Makowski; Lex Products Corp.; A; CP  
Louis Bradfield; I; U  
Nic Bowker; PLASA; P; G  
Stephen Vanciel; P; U  
Michael Lay; Strand Lighting (Strand Lighting Ltd.); P; MP  
Jerry Gorrell; Theatre Safety Programs; P; U  
Michele Yindrick; TMB; P; MP  
Richard Wolpert; Union Connector Company; P; CP

**Visitor:** Jean-Francois Canuel; Spectrum Manufacturing

**1 Opening remarks**

Ken Vannice called the meeting to order at 09:00. He welcomed everyone to the meeting, and then explained that Mitch Hefter was not able to help him chair the meeting because he was ill with back trouble. Vannice noted that the later starting time (9:00 instead of 8:00) gives us one hour less in which to accomplish our work, so we need to get started.

**2 Attendance and membership**

**2.1 Introduction of those present and taking attendance**

Those present introduced themselves while a blue attendance sign-in sheet was circulated.

**2.2 Determination of quorum**

Vannice asked for show of hands of the voters present. He announced that we had a quorum

**2.3 Recognition of alternate voting members**

There were alternates present who were recognized.

**2.4 Vote to affirm appointment of new co-chair**

Mitch Hefter has been appointed by the TSC as the working group co-chair to replace Bob Luther. The appointment is subject to confirmation by a simple majority vote of the working group.

Eddie Kramer moved that the working group approve the selection of Mitch Hefter as co-chairman. The motion was seconded, and then approved by a unanimous show of hands.

## 2.5 Requirements for membership

Vannice reminded the assembly that membership is open to all who are affected by the work of the group. Companies that would be in the dealer/rental company interest category in particular are encouraged to become 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.

## 2.6 Processing of new membership requests

Brian Merriken of Airpax had applied as an observer. His company is a mass-market producer. Roger Lattin moved that Merriken's application be accepted. The motion was seconded, and then approved by a unanimous show of hands.

The consensus body during this meeting, including those not present, was:

Name	Company	Representing	Voting status	Int. cat.
Michael Amorelli	AC Power Distribution Inc.	AC Power Distribution Inc.	P	CP
James Davey	AC Power Distribution Inc.	AC Power Distribution Inc.	A	CP
George Long	Aggreko Event Services	Aggreko	P	DR
Kenny Delahoussaye	Aggreko	Aggreko	A	DR
Wolfgang Hofheinz	Bender GmbH & Co. KG	Bender GmbH & Co. KG	P	MP
Joe Boardman	Bender Inc.	Bender GmbH & Co. KG	A	MP
Paul Menetrey	Menetrey Partners	Bender GmbH & Co. KG	A	MP
Steve Terry	Electronic Theatre Controls	Electronic Theatre Controls, Inc.	P	MP
Ian Foulds	IATSE Local 873	Entertainment Electrical Safety Committee of Ontario	P	G
Pat Miller	Hubbell Wiring Devices	Hubbell Inc.	P	MP
Edwin S. Kramer	I.A.T.S.E. Local 1	I.A.T.S.E. Local 1	P	U
Roger Lattin	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	P	U
R. Bruce Prochal	IATSE Local 728	I.A.T.S.E. Local 728	A	U
Patric J. Abaravich	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	A	U
Alan M. Rowe	IATSE Local 728	I.A.T.S.E. Local 728	A	U
Keith S. Woods	Lakhri Impressions Ltd.	IATSE Local 891	P	U
John (Javid) D. Butler	Integrated Theatre, Inc.	Integrated Theatre, Inc.	P	CP
Stephen J. Kay	K-Tec Corporation	K-Tec Corporation	P	MP
Ken Vannice	Colortran	Leviton Manufacturing Co., Inc.	P	MP
Bill Grande	Leviton Manufacturing Co., Inc.	Leviton Manufacturing Co., Inc.	A	MP
Bob Luther	Lex Products Corp.	Lex Products Corp.	P	CP
Kenneth M. Makowski	Lex Products Corp.	Lex Products Corp.	A	CP
Louis Bradfield	Louis Bradfield	Louis Bradfield	I	U
Jeff deRecat	Marinco/ADI	Marinco	P	MP
Bud Toly	Marinco/ADI	Marinco	A	MP
William Drake	Marinco	Marinco	A	MP
W. G. Krokaugger P.E.	Mole-Richardson Co.	Mole-Richardson Co.	P	CP
Al DeMayo	Mole-Richardson Co.	Mole-Richardson Co.	A	CP
Nic Bowker	PLASA	PLASA	P	G

Name	Company	Representing	Voting status	Int. cat.
Michael Scudday	SSRC, Inc.	SSRC, Inc.	P	CP
Stephen Vanciel	Stephen Vanciel	Stephen Vanciel	P	U
Michael Lay	Strand Lighting	Strand Lighting Ltd.	P	MP
Jerry Gorrell	Theatre Safety Programs	Theatre Safety Programs	P	U
Michele Yindrick	TMB	TMB	P	MP
Colin Waters	TMB	TMB	A	MP
Richard Wolpert	Union Connector Company	Union Connector Company	P	CP
Mitch Hefter	Entertainment Technology (Genlyte Group)	USITT	P	U
William L. Maiman	William L. Maiman	William L. Maiman	P	U
		Total votes possible	25	
		Votes by interest category	6	CP
			8	MP
			1	DR
			8	U
			2	G

**3 Approval of the minutes from the previous meeting (EP/2006-7002)**

Jerry Gorrell moved that the draft minutes be approved as written. The motion was seconded, and then approved by a unanimous show of hands.

**4 Reading of the call for patents**

Ken Vannice read the following statement aloud to the assembly:

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

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

No patent or other protected intellectual property issues were brought to the attention of the assembly.

**5 Reading of the anti-trust statement**

The following statement was read aloud to the assembly by Ken Vannice

"The ESTA Board of Directors, the Technical Standards Committee, and the leadership of this working group will reject or nullify any actions that unlawfully restrain trade. Anyone who feels that such an action is being or has been taken is requested to bring that matter to the attention of the chair immediately. Anyone who feels that actions in restraint of trade have been taken and not properly annulled is requested to notify the TSC chair or ESTA president immediately.

"ESTA legal counsel has informed us that violations of the anti-trust laws can have serious consequences. Individuals engaged in certain unlawful conduct can be found criminally liable. An individual convicted of a criminal violation of the Sherman Act may be fined as much as \$1,000,000 and imprisoned for up to ten years. An easy to read pamphlet describing restraint of trade issues is available from the Technical Standards Manager."

Karl Ruling, the Technical Standards Manager, held up some of the easy-to-read pamphlets.

No restraint of trade issues were brought to the attention of the assembly.

## 6 Approval of agenda

Roger Lattin moved that the agenda be approved with the addition of a report on a harmonics problem under "Other business." The motion was seconded, and then approved by a unanimous show of hands.

## 7 Old business - task group reports

### 7.1 EMC task group

No news to report, reported Vannice.

### 7.2 BSR E1.24 pin connectors [Ruling]

Karl Ruling reported that the ESTA Board had approved accepting the document as an ANS on a letter ballot, with a few ballots not returned. He had submitted it to ANSI for approval.

### 7.3 BSR E1.18 portable feeder cable selection and use

Eddie Kramer reported on the changes made to address the objections raised on the letter ballot and in subsequent discussions. Appendix D was moved to the body, and the circuit names were changed to be shorter and simpler. "Open loop" is now a form of radial, since, if it is open, it isn't a loop.

Kramer moved that the revised document be offered for public review. The motion was seconded. There was discussion. The motion for the first review will be decided by letter ballot.

### 7.4 BSR E1.19 GFCI task group

Bob Luther reported that a revised version of the document and a resolution document had been sent to the working group in advance of this meeting.

Jerry Gorrell moved that we accept the comment resolution document, Summary of First Review Comments and Reasons on BSR E1.19 with Resolutions (document EP/2006-7006r1). The motion was seconded. There was discussion of the comments. The motion was approved by a unanimous show of hands, except for George Long, who stepped out of the room just before this vote was taken. This was a supermajority of the working group.

Bob Luther moved that that revised standard document, BSR E1.19, Recommended Practice for the use of Class A Ground-Fault Circuit Interrupters (GFCIs) intended for personnel protection in the Entertainment Industry (document number EP/2001-7012r10) be offered for a second public review. The motion was seconded. There was discussion. The motion was approved by a supermajority of the working group on a roll call ballot. George Long had returned to the room.

Name	Company	Representing	Voting status	Int. cat.	Vote
Michael Amorelli	AC Power Distribution Inc.	AC Power Distribution Inc.	P	CP	
James Davey	AC Power Distribution Inc.	AC Power Distribution Inc.	A	CP	Yes
George Long	Aggreko Event Services	Aggreko	P	DR	Yes
Kenny Delahoussaye	Aggreko	Aggreko	A	DR	
Wolfgang Hofheinz	Bender GmbH & Co. KG	Bender GmbH & Co. KG	P	MP	
Joe Boardman	Bender Inc.	Bender GmbH & Co. KG	A	MP	Yes
Paul Menetrey	Menetrey Partners	Bender GmbH & Co. KG	A	MP	
Steve Terry	Electronic Theatre Controls	Electronic Theatre Controls, Inc.	P	MP	
Ian Foulds	IATSE Local 873	Entertainment Electrical Safety Committee of Ontario	P	G	Yes
Pat Miller	Hubbell Wiring Devices	Hubbell Inc.	P	MP	Yes

Name	Company	Representing	Voting status	Int. cat.	Vote
Edwin S. Kramer	I.A.T.S.E. Local 1	I.A.T.S.E. Local 1	P	U	Yes
Roger Lattin	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	P	U	Yes
R. Bruce Prochal	IATSE Local 728	I.A.T.S.E. Local 728	A	U	
Patric J. Abaravich	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	A	U	
Alan M. Rowe	IATSE Local 728	I.A.T.S.E. Local 728	A	U	
Keith S. Woods	Lakhri Impressions Ltd.	IATSE Local 891	P	U	Yes
John (Javid) D. Butler	Integrated Theatre, Inc.	Integrated Theatre, Inc.	P	CP	
Stephen J. Kay	K-Tec Corporation	K-Tec Corporation	P	MP	
Ken Vannice	Colortran	Leviton Manufacturing Co., Inc.	P	MP	Yes
Bill Grande	Leviton Manufacturing Co., Inc.	Leviton Manufacturing Co., Inc.	A	MP	
Bob Luther	Lex Products Corp.	Lex Products Corp.	P	CP	Yes
Kenneth M. Makowski	Lex Products Corp.	Lex Products Corp.	A	CP	
Louis Bradfield	Louis Bradfield	Louis Bradfield	I	U	Yes
Jeff deRecat	Marinco/ADI	Marinco	P	MP	
Bud Toly	Marinco/ADI	Marinco	A	MP	
William Drake	Marinco	Marinco	A	MP	
W. G. Krokaugger P.E.	Mole-Richardson Co.	Mole-Richardson Co.	P	CP	
Al DeMayo	Mole-Richardson Co.	Mole-Richardson Co.	A	CP	
Nic Bowker	PLASA	PLASA	P	G	Yes
Michael Scudday	SSRC, Inc.	SSRC, Inc.	P	CP	
Stephen Vanciel	Stephen Vanciel	Stephen Vanciel	P	U	Yes
Michael Lay	Strand Lighting	Strand Lighting Ltd.	P	MP	Yes
Jerry Gorrell	Theatre Safety Programs	Theatre Safety Programs	P	U	Yes
Michele Yindrick	TMB	TMB	P	MP	Yes
Colin Waters	TMB	TMB	A	MP	
Richard Wolpert	Union Connector Company	Union Connector Company	P	CP	Yes
Mitch Hefter	Entertainment Technology (Genlyte Group)	USITT	P	U	
William L. Maiman	William L. Maiman	William L. Maiman	P	U	

	Total possible	Yes	No	Abstain	Not present
CP	6	3	0	0	3
MP	8	5	0	0	3
DR	1	1	0	0	0
U	8	6	0	0	2
G	2	2	0	0	0
Total, all categories	25	17	0	0	8

In discussion, it was noted that UL 943 has been harmonized for Canada, Mexico, and the USA as a tri-national standard. It requires open neutral detection.

## 7.5 BSR E1.32 luminaire inspection guidance

Jerry Gorrell read aloud his revised scope statement, which had been distributed in advance of the meeting:

"This document provides guidance in the inspection of lighting luminaires used in the entertainment industry. This inspection guidance is intended to aid a technician in identifying defects that may be hazards to life or health. The information contained in

this document is intended to supplement, not replace, the information contained in manufacturers' maintenance instructions."

Jerry Gorrell moved that this scope statement be accepted. The motion was seconded. The motion was approved by a unanimous show of hands.

Jerry Gorrell said that he did not expect to have a task group meeting until LDI.

## **7.6 Generator earthing**

Roger Lattin did not have a report on generator earthing, but he did have an article about the problems of using clamp-on ground-testing meters. They don't work for separately derived systems, which are portable generators.

There was a discussion of the difficulties of driving ground rods for portable generators when film or video shooting is happening at multiple locations during the day. George Long said that he has had experience with AHJs requiring that every transformer also be grounded with an earth grounding system.

## **7.7 CANENA report**

Ken Vannice read aloud to the group the report he had received from Pierre de Saulet:

*Ken,*

### **Working Group Report:**

*We are progressing with the working group. We are having webex meetings on average about every 4-6 weeks and we have held 6 since the fall of 2005; these meetings are in blocks of 1 ½ hours and participation and collaboration of all the working group members can be qualified as excellent. We are basically over the mid-point of our agenda. We are completing the work on Series 16 and 18 simultaneously as we have a consensus on the similar components between the 2 Series. We are about to conclude on the metallic components at our next meeting for these 2 Series, approving the template drawings, and we will be having our 2<sup>nd</sup> session on the rubber components of those.*

*I expect to spend 3 more sessions on the rubber components of Series 16 and 18 to finalize work on those. We will be spending about 3 sessions on Series 15, we already had one. Series 15 is simpler to deal with as there are less manufacturers involved presently with the manufacture of said series and it benefits from the discussion on Series 16 and 18 in topics such as tolerancing, cam design and so on, which are similar in concept.*

*We will be looking finally at Series 17 and 19, which are extra large devices not presently used in stage and studio but very common in heavy industry: I expect also to invest 3 to 4 sessions.*

### **Harmonization Committee report:**

*As soon as we complete work on Series 16 and 18, and then on Series 15, we will resume meeting on the main Harmonization Committee. We have completed a review of the performance requirements and issued a series of action items: of note, there is a limited short circuit and simulation of connection and disconnection under load conditions for safety verification. This is in the name of UL. We should obtain consensus within one meeting for those specific action items. To complete work on the draft of the performance requirements standard, we will have to go through the test*

section to define pass/fail criteria and number of samples and so on, and then marking requirements. The draft will then be completed.

**Product Standard versus Installation Codes:**

The work ahead will then be to identify the areas where National and Local Codes and Industry practices differ. We have developed a table of all cam type devices and their industry-accepted usage as part of the task of the working group. We have clarified the language by defining the terms by which devices are referred to. We are documenting industry practices. Of course we found different practices depending on the type of industry, for example cinema versus circus: these 2 groups use the same devices in opposite ways. We are documenting as we go along and we are making sure the Product Standard will reflect adequate safety requirements consistent with documented industry practices.

**ESTA Support Required:**

If I may further qualify, Industry participation is critical for the success of this part of the work. Industry in this case is the users of products, basically the ESTA members. Participation in this case has been sporadic and we need help from ESTA to turn this around.

**Immediate Future:**

We are having a webex meeting on April 19<sup>th</sup> to finish work on the Series 16 and 18 metal parts and advance work on series 16 and 18 rubber parts. We should continue work on Series 15 also during this session.

I am planning a meeting of the Harmonization Committee for this summer, maybe in conjunction with the ESTA meeting in Dallas in July: I will bring this as a discussion topic at our next webex meeting.

*Pierre Desilets P. Eng. M.B.A.*

*Product Training and Regulatory Affairs Manager*

*Directeur, Formation du produit et affaires réglementaires*

**LEVITON CANADA**

*tel./tél. 514-954-1840*

Ken Vannice said that ESTA member participation is important and that webex meetings obviate the need to travel for the meetings. He urged those who are interested in participating in the project to contact pdesilets@leviton.com.

Eddie Kramer reported that he had participated in one of these teleconference meetings and found it very inexpensive and convenient. The call-in number is toll-free.

**8 New business**

None.

**9 Other business**

**9.1 Roger Lattin on harmonics**

Roger Lattin reported that a "really weird thing happened" at a location shoot. A 17-piece run of 4/0 feeding was feeding a rig of Vari\*Lite luminaires. [A 17-piece run is two grounds, six neutrals, and

three each of the A, B, and C hots.) The cables were run in carpet fashion: flat on the ground with cables grouped: grounds, neutrals, hot A, hot B, and hot C. The paralleled hot conductors running near the neutrals or the other phase conductors ran hot. He found a lot of harmonics on these conductors. He decided it would be better to mix the neutrals among the hot conductors in the future. That should avoid this problem.

Eddie Kramer said this is a known problem in the power industry. Documents he found recommend a cable arrangement of ABC, ABC, ABC. He thinks ABCN, ABCN, ABCN would be good.

#### **9.2 Karl Ruling on LDI sessions.**

There was a brief discussion of possible LDI sessions.

#### **9.3 UK color code**

Nic Bowker reported that the new color code for mains power conductors in the UK goes into effect April 1. The transition period is over. The color code used now matches the code used on the European continent.

#### **10 Changes to observer status with third meeting missed**

Members who have missed the previous two meetings and who will not have met the minimum attendance requirements if this meeting is missed:

No one.

#### **11 Schedule for future meetings**

Ken Vannice announced that the next working group meeting is scheduled for 9:00 to noon, Friday, 14 July 2006, Dallas/Ft. Worth Airport Marriott South in Ft. Worth, Texas

#### **12 Adjournment**

Jerry Gorrell moved that the meeting adjourn. The motion was seconded. The motion was approved with a unanimous show of hands. Ken Vannice declared the meeting adjourned at 11:39.



## Working Group Membership and Contact Information as of 18 May 2006

Name	Company	Representing (This is the primary sort field.)	Vote status	Int. cat.
Michael Amorelli	AC Power Distribution Inc.	AC Power Distribution Inc.	P	CP
James Davey	AC Power Distribution Inc.	AC Power Distribution Inc.	A	CP
Andre Broucke	ADB - TTV Technologies	ADB-TTV Group	O	MP
George Long	Aggreko Event Services	Aggreko	P	DR
Kenny Delahoussaye	Aggreko	Aggreko	A	DR
Brian Merriken	Airpax Corporation	Airpax Corporation	O	MP
Mike Skinner	CBS Studio Center	Alliance of Motion Picture and Television Producers	O	U
Arnold Tang	Arnold Tang Productions	Arnold Tang Productions	O	G
Jiantong Wu	Beijing Special Engineering Design & Research Institute	Beijing Special Engineering Design & Research Institute	O	G
Wolfgang Hofheinz	Bender GmbH & Co. KG	Bender GmbH & Co. KG	P	MP
Joe Boardman	Bender Inc.	Bender GmbH & Co. KG	A	MP
Paul Menetrey	Menetrey Partners	Bender GmbH & Co. KG	A	MP
Lee J. Bloch	Bloch Design Group, Inc.	Bloch Design Group, Inc.	O	G
Marty Lazarus	Chicago Spotlight, Inc.	Chicago Spotlight, Inc.	O	DR
Eric Bouchard	Cirque du Soleil	Cirque du Soleil	O	CP
Julie Rogers	City of Phoenix Civic Plaza	City of Phoenix	O	G
Wayne Kowalski	Coleman Cable Inc.	Coleman Cable Inc.	O	MP
Ford Sellers	Cornell University	Cornell University	O	U
Ron Dahlquist	Dadco	Dadco	O	MP
Don Earl	Earl Girls, Inc.	Earl Girls, Inc.	O	DR
Steve Terry	Electronic Theatre Controls	Electronic Theatre Controls, Inc.	P	MP
Ian Foulds	IATSE Local 873	Entertainment Electrical Safety Committee of Ontario	P	G
Art Wanuch	Robertson Electric Wholesale	Entertainment Electrical Safety Committee of Ontario	O	G
Trevor Forrest	Helvar Lighting Control	Helvar Lighting Control	O	MP
Pat Miller	Hubbell Wiring Devices	Hubbell Inc.	P	MP
Edwin S. Kramer	I.A.T.S.E. Local 1	I.A.T.S.E. Local 1	P	U
Roger Lattin	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	P	U
R. Bruce Prochal	IATSE Local 728	I.A.T.S.E. Local 728	A	U
Patric J. Abaravich	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	A	U
Alan M. Rowe	IATSE Local 728	I.A.T.S.E. Local 728	A	U
Keith S. Woods	Lakhri Impressions Ltd.	IATSE Local 891	P	U
Gian Carlo C. Bartolotti	Ibeam SP / Banco de Eventos	Ibeam SP / Banco de Eventos	O	U
Bill Kanne	Illumination Dynamics	Illumination Dynamics	O	U
John (Javid) D. Butler	Integrated Theatre, Inc.	Integrated Theatre, Inc.	P	CP
David Murray	IPC Resistors Inc.	IPC Resistors Inc.	O	CP
Jose J. Flores	Kino Flo, Inc.	Kino Flo, Inc.	O	MP
Don Gray	Kohler Event Services	Kohler Co.	O	U
Stephen J. Kay	K-Tec Corporation	K-Tec Corporation	O	MP
Ken Vannice	Colortran	Leviton Manufacturing Co., Inc.	P	MP
Bill Grande	Leviton Manufacturing Co., Inc.	Leviton Manufacturing Co., Inc.	A	MP
Bob Luther	Lex Products Corp.	Lex Products Corp.	P	CP
Reinhold Luther	Lex Products Corp.	Lex Products Corp.	O	CP
Kenneth M. Makowski	Lex Products Corp.	Lex Products Corp.	A	CP
Louis Bradfield	Louis Bradfield	Louis Bradfield	I	U
Jim Holladay	Luxence	Luxence	O	G
Jeff deRecat	Marinco/ADI	Marinco	P	MP
Phil Fram	Marinco	Marinco	O	MP
Bud Toly	Marinco/ADI	Marinco	A	MP
William Drake	Marinco	Marinco	A	MP
Hiroshi Kita	Marumo Electric Co., Ltd.	Marumo Electric Co., Ltd.	O	MP
Michael Klein	Metropolitan Engineering, Inc.	Metropolitan Engineering, Inc.	O	G
W. G. Krokaugger P.E.	Mole-Richardson Co.	Mole-Richardson Co.	P	CP
Al DeMayo	Mole-Richardson Co.	Mole-Richardson Co.	A	CP
Chris Guptill	Ohlone College	Ohlone College	O	U
Marsha DuBois	Pintech Stage Connectors, Inc.	Pintech Stage Connectors, Inc.	O	CP
Steve DuBois	Pintech Stage Connectors, Inc.	Pintech Stage Connectors, Inc.	O	CP
Nic Bowker	PLASA	PLASA	P	G
James Eade	PLASA	PLASA	O	G

Name	Company	Representing (This is the primary sort field.)	Vote status	Int. cat.
Mac Perkins	PNTA Inc.	PNTA Inc.	O	G
Paul F. Mardon	Pulsar Ltd.	Pulsar Ltd.	O	MP
Douglas Franz	QVC Network	QVC Network	O	U
Eric Tishman	Rosco Laboratories	Rosco Laboratories	O	MP
Richard B. Glickman	Gliconen Corporation	Rosco Laboratories	O	MP
Richard A. Prey	SMS Inc. / PGS LLC	SMS Inc. / PGS LLC	O	CP
Robert Barbagallo	Solotech Inc.	Solotech Inc.	O	DR
Michael Scudday	SSRC, Inc.	SSRC, Inc.	P	CP
Stephen Vanciel	Stephen Vanciel	Stephen Vanciel	P	U
Michael Lay	Strand Lighting	Strand Lighting Ltd.	P	MP
Reuben Goldberg	Technic Services	Technic Services	O	U
Jerry Gorrell	Theatre Safety Programs	Theatre Safety Programs	P	U
Richard D. Thompson	Thompson Associates	Thompson Associates	O	G
Michele Yindrick	TMB	TMB	P	MP
Colin Waters	TMB	TMB	A	MP
Richard Wolpert	Union Connector Company	Union Connector Company	P	CP
Mitch Hefter	Entertainment Technology (Genlyte Group)	USITT	P	U
Eckart Steffens	SOUNDLIGHT	VPLT	O	G
William L. Maiman	William L. Maiman	William L. Maiman	P	U

**Key to codes:**

- P principal voting member
- A alternate voting member
- I individual voting member
- O observer, non-voting
- MP mass-market producer interest category
- CP custom-market producer interest category
- DR dealer or rental company interest category
- U user interest category
- G general-interest interest category