

Minutes Control Protocols Working Group

Thursday, 10 November 2005
Rosen Plaza Hotel
Orlando, Florida

Chairmen: Steve Terry; Electronic Theatre Controls, Inc.; A; MP
Tracy Underhill; Electronics Diversified Inc.; P; MP

Recording secretary: Karl G. Ruling; ESTA

Members attending: Jean-Francois Canuel; Spectrum Manufacturing Inc. (A.C. Lighting Ltd.); O; CP
Arnold Tang; Arnold Tang Productions; P; U
Tobin Neis; Barbizon Companies; P; DR
Doug Fleenor; Doug Fleenor Design, Inc.; P; MP
Milton Davis; Doug Fleenor Design, Inc.; A; MP
Daniel W. Antonuk; Electronic Theatre Controls, Inc.; P; MP
Philip Nye; Engineering Arts; P; G
Robert Goddard; Goddard Design Co.; P; MP
Scott M. Blair; High End Systems Inc.; P; MP
Steve Carlson; High Speed Design, Inc.; O; MP
Alan Martello; Horizon Control Inc.; P; MP
Peter Willis; Howard Eaton Lighting Ltd.; P; CP
Roger Lattin; I.A.T.S.E. Local 728; P; U
John (Javid) D. Butler; Integrated Theatre, Inc.; P; CP
Michael (Mike) Whetstone; Integrated Theatre, Inc.; A; CP (joined at this meeting)
George Kindler; Kelley Technologies (Network Installation Corporation); P; DR
(rejoined with new employer at this meeting)
Stuart Cotts; Oregon Shakespeare Festival; O; U
Kevin Loewen; Pathway Connectivity Inc.; A; MP
Nic Bowker; PLASA; P; G
Charles Reese; Production Resource Group; P; DR
Paul F. Mardon; Pulsar Ltd.; O; MP
Hans Lau; Sand Network Systems; P; MP
Richard Lawrence; Strand Lighting Ltd.; P; MP
Michael Lay; Strand Lighting; A; MP
John Sondericker III; Wybron, Inc.; P; MP

Visitors: None.

1 Opening remarks

Steve Terry called the meeting to order and welcomed all at 09:00.

2 Attendance

2.1 Introductions of those present and circulation of attendance sheet

A green attendance sign-in sheet was circulated while those present introduced themselves

2.2 Determination of a quorum

Steve Terry announced that more than the nine voters required for a quorum were present, so business could be conducted.

2.3 Recognition of alternate voting members

Steve Terry asked if any alternates would be voting in place of a principal. He reminded voters that only one vote is permitted per company or organization.

3 Membership

3.1 Requirements for membership

Steve Terry reminded the assembly that working group membership is open to all who are affected by the work of the group. People and companies that would be in the general interest, users, and dealer/rental companies interest categories are at this time particularly encouraged to apply for membership. 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.

There was a brief discussion about why "People and companies that would be in the general interest, users, and dealer/rental companies interest categories are at this time particularly encouraged to apply for membership" had been added to the requirements for membership statement. Karl Ruling explained that the working group is deficient in those interest categories and that it would be good if working group members were aware of this problem and might do something to encourage membership in the under-represented categories. Also, the minutes eventually are posted on the web for all to see this notice.

3.2 Processing of new membership requests

The following people had applied for the noted voting and interest categories:

Lawrence Neal; I; CP

Sean Harding; Rhode Island College; O; U

Michael (Mike) Whetstone; Integrated Theatre, Inc.; A; CP

Flemming Jensen; Martin Professional A/S; A; G

Paul J. Clark; Hacek Design Ltd.; O; CP

George Kindler; Kelley Technologies (Network Installation Corporation); P; DR

Steve Terry noted that Lawrence Neal had applied for a voting status but was not present at the meeting. He suggested that observer status would be more appropriate for someone not attending meetings. There was no indication in the applicants statement on the application form that he ever intended to attend meetings.

Javid Butler moved that the applications be accepted, but with Lawrence Neal accepted as an observer. The motion was seconded. The motion was approved by a unanimous show of hands.

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

Name	Company	Representing (This is the primary sort field.)	Voting status	Int. cat.
Tim Bachman	A.C.T Lighting, Inc.	A.C.T Lighting, Inc.	P	DR
Arnold Tang	Arnold Tang Productions	Arnold Tang Productions	P	U
Wayne David Howell	Artistic Licence (UK) Ltd.	Artistic Licence (UK) Ltd.	P	CP
Simon Hobday	Artistic Licence (UK) Ltd.	Artistic Licence (UK) Ltd.	A	CP
Tobin Neis	Barbizon Companies	Barbizon Companies	P	DR
Doug Fleenor	Doug Fleenor Design, Inc.	Doug Fleenor Design, Inc.	P	MP
Milton Davis	Doug Fleenor Design, Inc.	Doug Fleenor Design, Inc.	A	MP
Ken Wagner	Doug Fleenor Design, Inc.	Doug Fleenor Design, Inc.	A	MP
Daniel W. Antonuk	Electronic Theatre Controls, Inc.	Electronic Theatre Controls, Inc.	P	MP
Steve Terry	Electronic Theatre Controls	Electronic Theatre Controls, Inc.	A	MP
Tracy Underhill	Electronics Diversified Inc.	Electronics Diversified Inc.	P	MP
Philip Nye	Engineering Arts	Engineering Arts	P	G
Robert Goddard	Goddard Design Co.	Goddard Design Co.	P	MP
Scott M. Blair	High End Systems Inc.	High End Systems Inc.	P	MP
Tom Grimes	High End Systems, Inc.	High End Systems, Inc.	A	MP
Jason Potterf	High End Systems Inc.	High End Systems Inc.	A	MP

Name	Company	Representing (This is the primary sort field.)	Voting status	Int. cat.
Alan Martello	Horizon Control Inc.	Horizon Control Inc.	P	MP
Robert Bell	Horizon Control Inc.	Horizon Control Inc.	A	MP
Peter Willis	Howard Eaton Lighting Ltd.	Howard Eaton Lighting Ltd.	P	CP
Edwin S. Kramer	I.A.T.S.E. Local 1	I.A.T.S.E. Local 1	P	U
John Huntington	I.A.T.S.E. Local 1	I.A.T.S.E. Local 1	A	U
Roger Lattin	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	P	U
Dennis Grow	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	A	U
Alan M. Rowe	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	A	U
John (Javid) D. Butler	Integrated Theatre, Inc.	Integrated Theatre, Inc.	P	CP
Michael (Mike) Whetstone	Integrated Theatre, Inc.	Integrated Theatre, Inc.	A	CP
Mark Jensen	Intelligent Control Devices	Intelligent Control Devices	P	CP
Rick Leinen	Colortran	Leviton Manufacturing Co., Inc.	P	MP
Ken Vannice	Colortran	Leviton Manufacturing Co., Inc.	A	MP
Daniel Weiermann	Mainstage Theatrical Supply – Milwaukee	Mainstage Theatrical Supply	P	DR
Torben Kaas Rasmussen	Martin Professional A/S	Martin Professional A/S	P	G
Flemming Jensen	Martin Professional A/S	Martin Professional A/S	A	G
George Kindler	Kelley Technologies	Network Installation Corporation	P	DR
Gary Douglas	Pathway Connectivity Inc.	Pathway Connectivity Inc.	P	MP
Dave Higgins	Pathway Connectivity Inc.	Pathway Connectivity Inc.	A	MP
Kevin Loewen	Pathway Connectivity Inc.	Pathway Connectivity Inc.	A	MP
Nic Bowker	PLASA	PLASA	P	G
Charles Reese	Production Resource Group	Production Resource Group	P	DR
Hans Lau	Sand Network Systems	Sand Network Systems	P	MP
Michael A. (Sandy) Twose	Sand Network Systems	Sand Network Systems	A	MP
Yngve Sandboe	Sand Network Systems	Sand Network Systems	A	MP
Richard Lawrence	Strand Lighting Ltd.	Strand Lighting Ltd.	P	MP
Michael Lay	Strand Lighting	Strand Lighting Ltd.	A	MP
Mitch Hefter	Entertainment Technology (Genlyte Group)	USITT	P	U
John Sondericker III	Wybron, Inc.	Wybron, Inc.	P	MP
		Total	27	
		Voters by interest category	11	MP
			4	CP
			5	DR
			4	U
			3	G

4 Approval of the minutes from the previous meeting (CP/2005-1008)

Javid Butler moved that the draft minutes be accepted as written. The motion was seconded. The motion was approved by a unanimous show of hands.

5 Reading of the call for patents

Tracy Underhill 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."

Steve Terry reported that Mike Wood had reported on a third continuation of the Colortran patent at the TSC meeting, and that Ken Vannice had said that Leviton will treat it as it has the others, i.e. license it on a non-discriminatory basis for a reasonable fee.

6 The reading of the anti-trust statement

Tracy Underhill read the following statement aloud to the assembly:

"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 to show their availability. No one asked for a copy, and no one reported any restraint of trade concerns.

7 Approval of agenda (CP/2005-1015)

Steve Terry asked that item 9.2 be handled prior to item 8.

Doug Fleenor moved that the agenda so modified be accepted. The motion was seconded. The motion was approved by a show of hands, with all voting in favor, except for one voting against.

9.2 Effective participation in a Task Group within the consensus standards process

Steve Terry spoke on how the process should work. The P&P shows the basics of how the process works, but the basic process does not assure the speedy or efficient development of a standard.

He suggested that people not air disagreement in the task group in public review. If there is no consensus, bring the disagreement directly to the working group and have it resolved there, rather than submitting it to the working group via public review. Bringing internal agreement into public review makes it look like the CPWG can't get its act together. It also brings it into the much more time-consuming public review process for conflict resolution, and if the resolution results in substantive changes, it triggers another public review.

Terry made a plea for compromise. If people still disagree after you have made your argument, accept it. Compromise is necessary to make progress.

Bob Goddard suggested that the CPWG members need to exercise diligence and prepare for the meetings by reading and working to understand the documents.

Peter Willis expressed concern about the management of the RDM task group and the urge to move things forward quickly to get a public review started. He complained about changes that were made to the document, not at face-to-face meetings, but as a result of on-line meetings, which he thought were poorly attended.

Scott Blair defended the changes, and said that they were minimal. They were largely editorial refinements of previously agreed upon substantive changes.

8 Old business

8.1 Cabling

8.1.1 E1.27-1 Portable cabling

Javid Butler reported that the BSR E1.27-1 document is in public review. Ruling explained that the ending date on the website is the day after the last day on which comments will be accepted. Javid Butler said he has received comments already, which Ruling explained were comments submitted in response to the comment resolutions from the previous public review.

8.1.2 Other E1.27 projects

Progress is being made, reported Butler. The task group is incorporating information from the Belden presentation. Butler hopes to have a version to consider for public review soon.

8.2 BSR E1.20 Remote Device Management

8.2.1 Report on public review comments and document revision

There was a discussion of comments and reasons. There was one person (Peter Willis) in the public review saying that the document was not acceptable. Scott Blair argued that the protocol fundamentally works and is not broken, and that although it can be polished, there would not be any clear advantage to proposed further changes. Willis argued that the document is fundamentally too loose, and that this will lead to problems in the future. He has ideas on a couple of ways on how to tighten it.

Goddard talked about some of the parts that are not as elegant as he would like, but he feels the draft standard is good enough to accept.

Doug Fleenor said that we could make it better, but it works now; the possible improvement is small and not worth the cost of the extra time.

Peter Willis said that there was a fundamental flaw, and Scott Blair said that Willis's understanding was incorrect, that the flaw does not exist. At this point the discussion became heated and technical on the merits of the PING command, GET:QUEUED_MESSAGE, and GET:STATUS_MESSAGES.

Karl Ruling suggested a way to resolve the disagreement, and this seemed to meet with the approval of the working group. He suggested that the task group prepare a majority suggested comment resolution document and that the disagreeing minority in the task group prepare a minority suggested comment resolution document. Then the majority shall review the minority document and write a rebuttal, and the minority shall review the majority resolution document and write a rebuttal. The two sets of suggested comment resolution documents and rebuttals then shall be submitted to the working group in time for the January meeting, and at that meeting the working group shall consider both and reach a decision. It was asked that majority and minority groups sign the documents, so it is clear who supports each.

8.2.2 Bulk data transfer

Scott Blair reported that the task group had made a lot of progress on it.

8.3 E1.17 Multipurpose Control Network Protocol Suite

8.3.1 Report on comment resolutions

Dan Antonuk moved that the comment resolutions (CP/2005-1010) be accepted. The motion was seconded.

In the discussion Bob Goddard said that he saw that changes had been made, but that he had not had time to read all the documents. Therefore, he would chose to abstain. Javid Butler also said that he had not had enough time to read all the documents, and would therefore abstain.

There was further discussion of how much trust CPWG members should put in the expertise of the ACN task group.

The motion was approved by a show of hands, with a supermajority of the working group voting in favor.

8.3.2 Revised document

Dan Antonuk moved that the revised suite of documents that constitute BSR E1.17 be offered for public review. The motion was seconded. The motion was approved by a supermajority, with 19 of a possible 27 voting Yes.

Name	Company	Representing (This is the primary sort field.)	Voting status	Int. cat.	Yes	No	Abstain
Tim Bachman	A.C.T Lighting, Inc.	A.C.T Lighting, Inc.	P	DR			
Arnold Tang	Arnold Tang Productions	Arnold Tang Productions	P	U	X		
Wayne David Howell	Artistic Licence (UK) Ltd.	Artistic Licence (UK) Ltd.	P	CP			
Simon Hobday	Artistic Licence (UK) Ltd.	Artistic Licence (UK) Ltd.	A	CP			
Tobin Neis	Barbizon Companies	Barbizon Companies	P	DR	X		
Doug Fleenor	Doug Fleenor Design, Inc.	Doug Fleenor Design, Inc.	P	MP	X		
Milton Davis	Doug Fleenor Design, Inc.	Doug Fleenor Design, Inc.	A	MP			
Ken Wagner	Doug Fleenor Design, Inc.	Doug Fleenor Design, Inc.	A	MP			
Daniel W. Antonuk	Electronic Theatre Controls, Inc.	Electronic Theatre Controls, Inc.	P	MP	X		
Steve Terry	Electronic Theatre Controls	Electronic Theatre Controls, Inc.	A	MP			
Tracy Underhill	Electronics Diversified Inc.	Electronics Diversified Inc.	P	MP	X		
Philip Nye	Engineering Arts	Engineering Arts	P	G	X		
Robert Goddard	Goddard Design Co.	Goddard Design Co.	P	MP	X		
Scott M. Blair	High End Systems Inc.	High End Systems Inc.	P	MP	X		
Tom Grimes	High End Systems, Inc.	High End Systems, Inc.	A	MP			
Jason Potterf	High End Systems Inc.	High End Systems Inc.	A	MP			
Alan Martello	Horizon Control Inc.	Horizon Control Inc.	P	MP	X		
Robert Bell	Horizon Control Inc.	Horizon Control Inc.	A	MP			
Peter Willis	Howard Eaton Lighting Ltd.	Howard Eaton Lighting Ltd.	P	CP	X		
Edwin S. Kramer	I.A.T.S.E. Local 1	I.A.T.S.E. Local 1	P	U			
John Huntington	I.A.T.S.E. Local 1	I.A.T.S.E. Local 1	A	U			
Roger Lattin	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	P	U	X		
Dennis Grow	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	A	U			
Alan M. Rowe	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	A	U			
John (Javid) D. Butler	Integrated Theatre, Inc.	Integrated Theatre, Inc.	P	CP	X		
Michael (Mike) Whelstone	Integrated Theatre, Inc.	Integrated Theatre, Inc.	A	CP			
Mark Jensen	Intelligent Control Devices	Intelligent Control Devices	P	CP			
Rick Leinen	Colortran	Leviton Manufacturing Co., Inc.	P	MP			
Ken Vannice	Colortran	Leviton Manufacturing Co., Inc.	A	MP			
Daniel Weiermann	Mainstage Theatrical Supply - Milwaukee	Mainstage Theatrical Supply	P	DR			
Torben Kaas Rasmussen	Martin Professional A/S	Martin Professional A/S	P	G			
Flemming Jensen	Martin Professional A/S	Martin Professional A/S	A	G			
George Kindler	Kelley Technologies	Network Installation Corporation	P	DR	X		
Gary Douglas	Pathway Connectivity Inc.	Pathway Connectivity Inc.	P	MP			
Dave Higgins	Pathway Connectivity Inc.	Pathway Connectivity Inc.	A	MP			
Kevin Loewen	Pathway Connectivity Inc.	Pathway Connectivity Inc.	A	MP	X		
Nic Bowker	PLASA	PLASA	P	G	X		
Charles Reese	Production Resource Group	Production Resource Group	P	DR	X		
Hans Lau	Sand Network Systems	Sand Network Systems	P	MP	X		
Michael A. (Sandy) Twose	Sand Network Systems	Sand Network Systems	A	MP			
Yngve Sandboe	Sand Network Systems	Sand Network Systems	A	MP			
Richard Lawrence	Strand Lighting Ltd.	Strand Lighting Ltd.	P	MP	X		
Michael Lay	Strand Lighting	Strand Lighting Ltd.	A	MP			
Mitch Hefter	Entertainment Technology (Genlyte Group)	USITT	P	U			
John Sondericker III	Wybron, Inc.	Wybron, Inc.	P	MP	X		
Total			27		19	0	0

	Total Possible		Yes	No	Abstain
Voters by interest category	11	MP	10	0	0
	4	CP	2	0	0
	5	DR	3	0	0
	4	U	2	0	0
	3	G	2	0	0

Steve Terry noted that the revised standard had already been approved for public review by the TSC, subject to approval by the working group. The working group had now approved it, so it will be offered for public review.

8.3.3 Possible continuing project on Interoperability Profiles

Dan Antonuk made a motion for a new standards effort.

Title: Application level equipment interoperability for control of commonly encountered entertainment technology devices using E1.17.

Scope: This specification shall consist of a set of Interoperability Profiles defining standard DMP device types using device description templates written in DDL. Additional motivational text will be included to aid understanding for newcomers to E1.17.

Manufacturers of entertainment technology equipment are encouraged to expose their ACN devices on the network using these device types to achieve application level interoperability across manufacturers.

The motion was seconded. The motion was approved by a unanimous show of hands.

With the approval of the working group, a task group was formed for this project, which is essentially the same task group as the one working on ACN:

Dan Antonuk, Richard Lawrence, Alan Martello, Philip Nye, John Sondericker, Charles Reese.

8.3.4 Possible new project on streaming data

Dan Antonuk moved that the CPWG start a new standards effort.

Title: Lightweight streaming protocol for transport of DMX512 using ACN.

Scope: To develop a minimalist subset of DMP operating at the ACN root layer for "fire and forget" streaming of DMX512 data for very lightweight devices.

The protocol will be suitable for implementation in hardware with very limited resources which is expected to be used in simpler systems.

DMP over SDT already provides an elegant mechanism for streaming DMX type data intermixed with more random access data and high speed feedback in a flexible and highly scalable way. The intent of this proposal is to provide a very simple protocol which provides functionality comparable to existing DMX over Ethernet protocols. It will be simplified by not providing all the advanced features of DMP over SDT yet will benefit from compatibility with the ACN suite. Most importantly, it will be an open consensus standard.

The motion was seconded. The motion was approved by a unanimous show of hands.

Same task group as above.

8.4 E1.11 Recommended Practice

Steve Terry said that he and Tracy Underhill had gotten phone calls from Tim Bachman saying he can't participate in the CPWG because his employer is not willing to support his work. Therefore, the task group does not have a leader.

There was a discussion of who could take over leading this group and who should be on it.

Tobin Neis moved that Peter Willis, Bob Goddard, Nic Bowker, Javid Butler, and Roger Lattin be on the task group. The motion was seconded and then approved by a unanimous show of hands. Steve Terry appointed Peter Willis as the head of the task group.

Steve Terry asked that the minutes show our thanks to Tim Bachman for his efforts on this project.

8.5 ANSI E1.11 auf Deutsch

Terry reported that VPLT's representatives had reported budget problems at the TSC meeting, which prevented the translation job from being done this year. However, VPLT intends to do it next year with the new budget.

9 New business

9.1 Reaffirmation, revision, or withdrawal of ANSI E1.3-2001, Entertainment Technology - Lighting Control Systems - 0 to 10V Analog Control Specification

Doug Fleenor moved that ANSI E1.3 be reaffirmed. The motion was seconded. There was discussion in which the utility of an analog control standard was questioned and reaffirmed. The motion was approved by a unanimous show of hands.

The first step in reaffirming a standard is for it to be offered for public review. The P&P says that a first review shall be approved by a letter ballot, so a letter ballot shall be issued asking to authorize the public review.

9.2 Effective participation in a Task Group within the consensus standards process — Steve Terry (Covered above before item 8.)

10 Other business

None.

11 Schedule for future meetings

Steve Terry announced that the next meeting would be Saturday, 21 January 2006, from 09:00 to 17:00 at the Dallas/Ft. Worth Airport Marriott South in Ft. Worth, TX

12 Changes to observer status due to lack of attendance

Voting members who had missed the previous two meetings:

Mark Jensen; Intelligent Control Devices
Daniel Weiermann; Mainstage Theatrical Supply

Steve Terry announced that Jensen and Weiermann had now missed three consecutive meetings and were now observers because of their lack of meeting attendance. [Note: After the meeting Tim Bachman also asked to be moved to observer status.]

13 Adjournment

Steve Terry asked for a motion to adjourn. There was approval by acclamation. Steve Terry declared the meeting adjourned at 11:20.

Working Group Members and Contact Information as of 17 November 2005

Name	Company	Representing (This is the primary sort field.)	Vote status	Int. cat.
Jean-Francois Canuel	Spectrum Manufacturing Inc.	A.C. Lighting Ltd.	O	CP
Tim Bachman	A.C.T Lighting, Inc.	A.C.T Lighting, Inc.	O	DR
Andre Broucke	ADB - TTV Technologies	ADB-TTV Group	O	MP
John Sellers	AIM Northwest	AIM Northwest	O	G
Arnold Tang	Arnold Tang Productions	Arnold Tang Productions	P	U
Wayne David Howell	Artistic Licence (UK) Ltd.	Artistic Licence (UK) Ltd.	P	CP
Simon Hobday	Artistic Licence (UK) Ltd.	Artistic Licence (UK) Ltd.	A	CP
Steve Friedlander	Auerbach Pollock Friedlander	Auerbach Pollock Friedlander	O	U
J. B. Toby	Avolites Ltd.	Avolites Ltd.	O	MP
Shahid Anwar	Avolites Ltd.	Avolites Ltd.	O	MP
Richard Salzedo	Avolites Ltd.	Avolites Ltd.	O	MP
Barbara Wohlsen	Barbara Wohlsen	Barbara Wohlsen	O	U
Tobin Neis	Barbizon Companies	Barbizon Companies	P	DR
Jiantong Wu	Beijing Special Engineering Design & Research Institute	Beijing Special Engineering Design & Research Institute	O	G
Bernardo Benito Rico	Ben-Ri Electronica S.A.	Ben-Ri Electronica S.A.	O	MP
Lee J. Bloch	Blue Sky Design, Ltd.	Blue Sky Design, Ltd.	O	G
Soo-Myong Chung	Blue Sky Design, Ltd.	Blue Sky Design, Ltd.	O	G
Bradley Klinkradt	Bradley Klinkradt	Bradley Klinkradt	O	G
Bill Ellis	Candela Controls, Inc.	Candela Controls, Inc.	O	U
Will Wagner	Carallon Ltd.	Carallon Ltd.	O	MP
Steve Roberts	Carr & Angier	Carr & Angier	O	G
Marty Lazarus	Chicago Spotlight, Inc.	Chicago Spotlight, Inc.	O	G
Larry Dunn	City Theatrical, Inc.	City Theatrical, Inc.	O	CP
Fabiano Pina	Clay Paky S.P.A.	Clay Paky S.P.A.	O	MP
Ohad Ashery	Compulite Systems	Compulite Systems	O	MP
Simeon Aladjem	Compulite Systems	Compulite Systems	O	MP
Yehuda Shukram	Compulite Systems	Compulite Systems	O	MP
Dietmar Rottinghaus	Connex GmbH	Connex GmbH	O	G
David Bertenshaw	David Bertenshaw	David Bertenshaw	O	G
Larry Schoeneman	Designlab Chicago, Inc.	Designlab Chicago, Inc.	O	DR
Doug Fleenor	Doug Fleenor Design, Inc.	Doug Fleenor Design, Inc.	P	MP
Milton Davis	Doug Fleenor Design, Inc.	Doug Fleenor Design, Inc.	A	MP
Ken Wagner	Doug Fleenor Design, Inc.	Doug Fleenor Design, Inc.	A	MP
Gary Dove	Dove Systems	Dove Systems	O	MP
Jerry Durand	Durand Interstellar, Inc.	Durand Interstellar, Inc.	O	CP
Jussi Kallioinen	Eastway Sound & Lighting	Eastway Sound & Lighting	O	U
Ed Jones	Edwin Jones Co., Inc.	Edwin Jones Co., Inc.	O	CP
Joost van Eenbergen	ELC Lighting	ELC Lighting	O	MP
Bill Fehrmann	Electrol Engineering, Inc.	Electrol Engineering, Inc.	O	MP
Daniel W. Antonuk	Electronic Theatre Controls, Inc.	Electronic Theatre Controls, Inc.	P	MP
Hans Leiter	Transtechnik Lichtsysteme GmbH & Co. KG	Electronic Theatre Controls, Inc.	O	MP
Anders Ekvall	Transtechnik Lichtsysteme GmbH	Electronic Theatre Controls, Inc.	O	MP
Adam Bennette	Electronic Theatre Controls Ltd.	Electronic Theatre Controls, Inc.	O	MP
Steve Terry	Electronic Theatre Controls	Electronic Theatre Controls, Inc.	A	MP
Tracy Underhill	Electronics Diversified Inc. (Colorado)	Electronics Diversified Inc.	P	MP
Philip Nye	Engineering Arts	Engineering Arts	P	G
Erwin Rol	Erwin Rol	Erwin Rol	O	G
Robert Goddard	Goddard Design Co.	Goddard Design Co.	P	MP
Sierk Janszen	Ground Zero	Ground Zero	O	U
Liao Wei Min	GuangZhou HeDong Electronic Co., Ltd.	GuangZhou HeDong Electronic Co., Ltd.	O	G
Paul J. Clark	Hacek Design Ltd.	Hacek Design Ltd.	O	CP
Alan P. Symonds	Harvard College	Harvard University	O	U
Trevor Forrest	Helvar Lighting Control	Helvar Lighting Control	O	MP
Bill Hewlett	Hewlett Electronics	Hewlett Electronics	O	CP
Scott M. Blair	High End Systems Inc.	High End Systems Inc.	P	MP
Jason Potterf	High End Systems Inc.	High End Systems Inc.	A	MP
Tom Grimes	High End Systems, Inc.	High End Systems, Inc.	A	MP
Steve Carlson	High Speed Design, Inc.	High Speed Design, Inc.	O	MP
Alan Martello	Horizon Control Inc.	Horizon Control Inc.	P	MP
Robert Bell	Horizon Control Inc.	Horizon Control Inc.	A	MP

Name	Company	Representing (This is the primary sort field.)	Vote status	Int. cat.
Peter Willis	Howard Eaton Lighting Ltd.	Howard Eaton Lighting Ltd.	P	CP
Edwin S. Kramer	I.A.T.S.E. Local 1	I.A.T.S.E. Local 1	P	U
John Huntington	I.A.T.S.E. Local 1	I.A.T.S.E. Local 1	A	U
Roger Lattin	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	P	U
Dennis Grow	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	A	U
Alan M. Rowe	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	A	U
Gian Carlo C. Bartolotti	Ibeam SP / Banco de Eventos	Ibeam SP / Banco de Eventos	O	U
Geoffrey O. Thompson	Nortel Networks, Inc.	IEEE 802.3/Nortel Networks	O	G
John (Javid) D. Butler	Integrated Theatre, Inc.	Integrated Theatre, Inc.	P	CP
Michael (Mike) Whetstone	Integrated Theatre, Inc.	Integrated Theatre, Inc.	A	CP
Mark Jensen	Intelligent Control Devices	Intelligent Control Devices	O	CP
Rob Johnston	Interactive Technologies, Inc.	Interactive Technologies, Inc.	O	MP
David Timmins	Jands Electronics	Jands Electronics	O	MP
Helge Hoffmann	JB Lighting	JB Lighting	O	MP
Edward Paget	Jones & Phillips Associates, Inc.	Jones & Phillips Associates, Inc.	O	G
Christopher Purpura	Jones & Phillips Associates, Inc.	Jones & Phillips Associates, Inc.	O	G
Lawrence Neal	Lawrence Neal	Lawrence Neal	O	CP
John Mehlretter	Lehigh Electric Products Co.	Lehigh Electric Products Co.	O	MP
Mark T. Kraft	Lehigh Electric Products Co.	Lehigh Electric Products Co.	O	MP
Rick Leinen	Colortran	Leviton Manufacturing Co., Inc.	P	MP
Ken Vannice	Colortran	Leviton Manufacturing Co., Inc.	A	MP
Lars Wernlund	Lewlight	Lewlight	O	MP
Klaus Amling	Licht-Technik	Licht-Technik	O	P
Andrew Sherar	Lightmoves PLC	Lightmoves PLC	O	MP
Simon Alpert	Lighttech Event Technologies	Lighttech Event Technologies	O	CP
Gary Pritchard	LSC Lighting Systems PTY Ltd	LSC Lighting Systems PTY Ltd	O	MP
Bart Swinnen	Luminex LCE	Luminex LCE	O	MP
J. P. Steiner	Lutron Electronics	Lutron Electronics	O	MP
Jim Holladay	Luxence	Luxence	O	G
Daniel Weiermann	Mainstage Theatrical Supply - Milwaukee	Mainstage Theatrical Supply	O	DR
Torben Kaas Rasmussen	Martin Professional A/S	Martin Professional A/S	P	G
Flemming Jensen	Martin Professional A/S	Martin Professional A/S	A	G
Hiroshi Kita	Marumo Electric Co., Ltd.	Marumo Electric Co., Ltd.	O	MP
George Kindler	Kelley Technologies	Network Installation Corporation	P	DR
Paul McEwan	Northern Light	Northern Light	O	DR
Petri Laine	Obelux Oy	Obelux Oy	O	CP
Stuart Cotts	Oregon Shakespeare Festival	Oregon Shakespeare Festival	O	U
David A. Boller	Organic Machines LLC	Organic Machines LLC	O	CP
William Benner	Pangolin Laser Systems	Pangolin Laser Systems	O	MP
Gary Douglas	Pathway Connectivity Inc.	Pathway Connectivity Inc.	P	MP
Greg Reimer	Pathway Connectivity Inc.	Pathway Connectivity Inc.	O	MP
Dave Higgins	Pathway Connectivity Inc.	Pathway Connectivity Inc.	A	MP
Kevin Loewen	Pathway Connectivity Inc.	Pathway Connectivity Inc.	A	MP
Nic Bowker	PLASA	PLASA	P	G
James Eade	PLASA	PLASA	O	G
Mac Perkins	PNTA Inc.	PNTA Inc.	O	G
Charles Reese	Production Resource Group	Production Resource Group	P	DR
Paul F. Mardon	Pulsar Ltd.	Pulsar Ltd.	O	MP
Steve Unwin	Pulsar Ltd.	Pulsar Ltd.	O	MP
Stephen J. Tyrrell	Quantum Logic	Quantum Logic	O	MP
Douglas Franz	QVC Network	QVC Network	O	U
Sean Harding	Rhode Island College	Rhode Island College	O	U
Charlie Richmond	Richmond Sound Design Ltd.	Richmond Sound Design Ltd.	O	CP
Martin Farnik	Robe Show Lighting s.r.o.	Robe Show Lighting s.r.o.	O	MP
Hans Lau	Sand Network Systems	Sand Network Systems	P	MP
Michael A. (Sandy) Twose	Sand Network Systems	Sand Network Systems	A	MP
Yngve Sandboe	Sand Network Systems	Sand Network Systems	A	MP
Kenneth Mockler	Sceno Plus	Sceno Plus	O	U
Mick Martin	ShowCAD Control Systems	ShowCAD Control Systems	O	MP
Loren Wilton	Showman Systems	Showman Systems	O	CP
Jon R. Farley	Sixteenth Avenue Systems	Sixteenth Avenue Systems	O	CP
Robert Barbagallo	Solotech Inc.	Solotech Inc.	O	U
Michael Gonzales	Spectrum Lighting Inc.	Spectrum Lighting Inc.	O	DR

Name	Company	Representing (This is the primary sort field.)	Vote status	Int. cat.
Ujjal Kar	Standard Robotics & Lighting	Standard Robotics & Lighting	O	G
Richard Lawrence	Strand Lighting Ltd.	Strand Lighting Ltd.	P	MP
Michael Lay	Strand Lighting	Strand Lighting Ltd.	A	MP
Paul K. Ericson	Syska Hennessy Group Lighting Design	Syska Hennessy Group Lighting Design	O	U
Stephen Bickford	T. Kondos Associates	T. Kondos Associates	O	U
Tad Trylski	Tad Trylski	Tad Trylski	O	U
Klas Dalbjorn	Labgruppen AB	TC Group	O	MP
Pete Baselici	The Watt Stopper	The Watt Stopper	O	MP
Jerry Gorrell	Theatre Safety Programs	Theatre Safety Programs	O	G
Stéphane Jacob	TIR Systems Ltd.	TIR Systems Ltd.	O	MP
Colin Waters	TMB	TMB	O	U
Matt Stroud	University of Texas at Austin	University of Texas at Austin	O	G
Mitch Hefter	Entertainment Technology (Genlyte Group)	USITT	P	U
Torrey Bievenour	Vision Quest Lighting	Vision Quest Lighting	O	G
Eckart Steffens	SOUNDLIGHT	VPLT	O	G
Eric Cornwell	West Side Systems	West Side Systems	O	U
John Sondericker III	Wybron, Inc.	Wybron, Inc.	P	MP

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