

Minutes Control Protocols Working Group

Saturday, 30 July 2005
Dallas/Ft. Worth Airport Marriott South
Ft. Worth, Texas

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

Recording secretary: Karl G. Ruling; ESTA

Members attending: Rick Leinen; Colortran; (Leviton Manufacturing Co., Inc.); P; MP
Robert Goddard; Goddard Design Co.; P; MP
Dave Higgins; Pathway Connectivity Inc.; A; MP
Mitch Hefter; Entertainment Technology (Genlyte Group), representing USITT; P;
U
John Sondericker III; Wybron, Inc.; P; MP
Philip Nye; Engineering Arts; P; G
Wayne David Howell; Artistic Licence (UK) Ltd.; P; CP
Tobin Neis; Barbizon Companies; P; DR
Edwin S. Kramer; I.A.T.S.E. Local 1; P; U
Roger Lattin; I.A.T.S.E. Local 728; P; U
Milton Davis; Doug Fleenor Design, Inc.; A; MP
Michael Lay; Strand Lighting; (Strand Lighting Ltd.); A; MP
Daniel W. Antonuk; Electronic Theatre Controls, Inc.; P; MP
Alan Martello; Horizon Control Inc.; P; MP
Robert Bell; Horizon Control Inc.; A; MP
Scott M. Blair; High End Systems Inc.; P; MP
George Kindler; Kelley Technologies LLC; P; DR
Jean-Francois Canuel; Spectrum Manufacturing Inc.; (A.C. Lighting Ltd.); O; CP
Nic Bowker; PLASA; P; G
John (Javid) D. Butler; Integrated Theatre, Inc.; P; CP

Visitor: Steve Lampen; Belden CDT

1 Opening remarks

Steve Terry called the meeting to order at 09:00

2 Attendance

2.1 Introductions of those present and circulation of attendance sheet

Those present introduced themselves and signed-in on a trillium attendance sheet.

2.2 Determination of a quorum

Steve Terry asked for show of hands from the voters. He did a quick count and then announced that a quorum was present.

2.3 Recognition of alternate voting members

Steve Terry reminded alternates that they may not vote if the principal is present and is voting. Only one person may vote for a company or organization on a question.

3 Membership

3.1 Requirements for membership

Steve Terry reminded the assembly that membership is open to all who are affected by the work of the group. 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 Processing of new membership requests

Applications had been received from the following:

Larry Schoeneman of DesignLab Chicago applied as a principal in the dealer/rental company category. Schoeneman was not present. Schoeneman was already an observer member representing Interesting Products, so this would be a change of company affiliation as well as voting status.

Jerry Durand of Durand Interstellar applied as an observer in the custom producer category.

Mitch Hefter moved that the applicants be accepted as observer members. The motion was seconded. The motion was approved with a unanimous show of hands.

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

Name	Company	Representing	Voting status	Interest category
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. (Colorado)	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
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
Mark Jensen	Intelligent Control Devices	Intelligent Control Devices	P	CP
George Kindler	Kelley Technologies LLC	Kelley Technologies LLC	P	DR
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
Ole Bystrup	Martin Professional A/S	Martin Professional A/S	P	G
Torben Kaas Rasmussen	Martin Professional A/S	Martin Professional A/S	A	G
Gary Douglas	Pathway Connectivity Inc.	Pathway Connectivity Inc.	P	MP

Name	Company	Representing	Voting status	Interest category
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
Stéphane Jacob	TIR Systems Ltd.	TIR Systems Ltd.	P	MP
Mitch Hefter	Entertainment Technology (Genlyte Group)	USITT	P	U
John Sondericker III	Wybron, Inc.	Wybron, Inc.	P	MP
		total	28	
		by interest category	12	MP
			4	CP
			5	DR
			4	U
			3	G

4 Approval of the minutes from the previous meeting (CP/2005-1002)

Eddie Kramer moved that the draft minutes of the previous meeting be approved as written. The motion was seconded. The motion was approved with a show of hands, with all voting in favor except for two abstentions.

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."

No issues were brought to the attention of the assembly.

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 one of the pamphlets to show its availability. Roger Lattin shined a flashlight at it.

7 Approval of agenda (CP/2005-1007)

Steve Terry suggested we add accepting nominations for the vacating co-chair to the agenda.

Mitch Hefter moved that the draft agenda with the addition be accepted. The motion was seconded. The motion was approved with a unanimous show of hands.

8 Old business

8.1 Cabling

8.1.1 Belden presentation, questions & answers

Special guest, Stephen H. Lampen of Belden CDT Inc., gave a one-hour PowerPoint presentation and talk on cabling for 10 gigabit applications for AV applications, including a history of Ethernet cabling. In a nutshell: balanced lines with tight pairs are the trick. He referenced his book on cable for audio and video applications, the *Audio/Video Cable Installer's Pocket Guide*. (McGraw Hill, 2002. ISBN 0-07-138621-1)

8.1.2 E1.27-1 Portable cabling

8.1.2.1 Report on comment resolutions (CP/2005-1006)

Javid Butler moved that the comment resolution document CP/2005-1006 be accepted. The motion was seconded. The motion was approved with a unanimous show of hands.

8.1.2.2 Revised document (CP/2003-1028r4)

Javid Butler moved that the revised draft BSR E1.27-1 standard (CP/2003-1028r4) be offered for a third public review. The motion was seconded. The motion was approved with a unanimous roll call ballot.

Name	Company	Representing	Voting status	Interest category	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			
Wayne David Howell	Artistic Licence (UK) Ltd.	Artistic Licence (UK) Ltd.	P	CP	1		
Simon Hobday	Artistic Licence (UK) Ltd.	Artistic Licence (UK) Ltd.	A	CP			
Tobin Neis	Barbizon Companies	Barbizon Companies	P	DR	1		
Doug Fleenor	Doug Fleenor Design, Inc.	Doug Fleenor Design, Inc.	P	MP			
Milton Davis	Doug Fleenor Design, Inc.	Doug Fleenor Design, Inc.	A	MP	1		
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	1		
Steve Terry	Electronic Theatre Controls	Electronic Theatre Controls, Inc.	A	MP			
Tracy Underhill	Electronics Diversified Inc. (Colorado)	Electronics Diversified Inc.	P	MP	1		
Philip Nye	Engineering Arts	Engineering Arts	P	G	1		
Robert Goddard	Goddard Design Co.	Goddard Design Co.	P	MP	1		
Scott M. Blair	High End Systems Inc.	High End Systems Inc.	P	MP	1		
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	1		
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	1		
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	1		
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	1		
Mark Jensen	Intelligent Control Devices	Intelligent Control Devices	P	CP			
George Kindler	Kelley Technologies LLC	Kelley Technologies LLC	P	DR	1		
Rick Leinen	Colortran	Leviton Manufacturing Co., Inc.	P	MP	1		

Name	Company	Representing	Voting status	Interest category	Yes	No	Abstain
Ken Vannice	Colortran	Leviton Manufacturing Co., Inc.	A	MP			
Daniel Weiermann	Mainstage Theatrical Supply - Milwaukee	Mainstage Theatrical Supply	P	DR			
Ole Bystrup	Martin Professional A/S	Martin Professional A/S	P	G			
Torben Kaas Rasmussen	Martin Professional A/S	Martin Professional A/S	A	G			
Gary Douglas	Pathway Connectivity Inc.	Pathway Connectivity Inc.	P	MP			
Dave Higgins	Pathway Connectivity Inc.	Pathway Connectivity Inc.	A	MP	1		
Kevin Loewen	Pathway Connectivity Inc.	Pathway Connectivity Inc.	A	MP			
Nic Bowker	PLASA	PLASA	P	G	1		
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	1		
Stéphane Jacob	TIR Systems Ltd.	TIR Systems Ltd.	P	MP			
Mitch Hefter	Entertainment Technology (Genlyte Group)	USITT	P	U	1		
John Sondericker III	Wybron, Inc.	Wybron, Inc.	P	MP	1		
		total	28		19	0	0
		by interest category	12	MP	10	0	0
			4	CP	2	0	0
			5	DR	2	0	0
			4	U	3	0	0
			3	G	2	0	0

8.1.3 Other E1.27 projects

Javid Butler reported that there will be revisions to the requirements to the draft permanent cabling standard, based on the information gained from Stephen H. Lampen.

There was a discussion of the need for conduit. It is clear that it is useful for physical protection, but, based on Lampen's presentation, it is not needed for EMC with high-quality, unshielded twisted pair cable.

8.2 BSR E1.20 Remote Device Management

8.2.1 Report on comment resolutions (CP/2005-1003)

Scott Blair moved that the draft comment resolutions (CP/2005-1003) be approved. The motion was seconded. There was discussion. Peter Willis had submitted an absentee ballot voting No on approving the resolutions. All present voted yes, except for one abstention. The motion carried with supermajority of the voters voting in favor: 18 voters out of a voting body of 28 voted Yes, one absentee voted No, and one present voted Abstain.

8.2.2 Revised document (CP/2003-1003r3)

Scott Blair moved that the revised draft BSR E1.20 (CP/2003-1003r3) be offered for public review. The motion was seconded. Peter Willis had submitted an absentee ballot voting in favor. The motion was approved by a supermajority on a roll call ballot, with all present and the one absentee voter voting Yes.

Name	Company	Representing	Voting status	Interest category	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			
Wayne David Howell	Artistic Licence (UK) Ltd.	Artistic Licence (UK) Ltd.	P	CP	1		
Simon Hobday	Artistic Licence (UK) Ltd.	Artistic Licence (UK) Ltd.	A	CP			
Tobin Neis	Barbizon Companies	Barbizon Companies	P	DR	1		
Doug Fleenor	Doug Fleenor Design, Inc.	Doug Fleenor Design, Inc.	P	MP			

Name	Company	Representing	Voting status	Interest category	Yes	No	Abstain
Milton Davis	Doug Fleenor Design, Inc.	Doug Fleenor Design, Inc.	A	MP	1		
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	1		
Steve Terry	Electronic Theatre Controls	Electronic Theatre Controls, Inc.	A	MP			
Tracy Underhill	Electronics Diversified Inc. (Colorado)	Electronics Diversified Inc.	P	MP	1		
Philip Nye	Engineering Arts	Engineering Arts	P	G	1		
Robert Goddard	Goddard Design Co.	Goddard Design Co.	P	MP	1		
Scott M. Blair	High End Systems Inc.	High End Systems Inc.	P	MP	1		
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	1		
Robert Bell	Horizon Control Inc.	Horizon Control Inc.	A	MP			
Peter Willis	Howard Eaton Lighting Ltd.	Howard Eaton Lighting Ltd.	P	CP	1		
Edwin S. Kramer	I.A.T.S.E. Local 1	I.A.T.S.E. Local 1	P	U	1		
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	1		
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	1		
Mark Jensen	Intelligent Control Devices	Intelligent Control Devices	P	CP			
George Kindler	Kelley Technologies LLC	Kelley Technologies LLC	P	DR	1		
Rick Leinen	Colortran	Leviton Manufacturing Co., Inc.	P	MP	1		
Ken Vannice	Colortran	Leviton Manufacturing Co., Inc.	A	MP			
Daniel Weiermann	Mainstage Theatrical Supply - Milwaukee	Mainstage Theatrical Supply	P	DR			
Ole Bystrup	Martin Professional A/S	Martin Professional A/S	P	G			
Torben Kaas Rasmussen	Martin Professional A/S	Martin Professional A/S	A	G			
Gary Douglas	Pathway Connectivity Inc.	Pathway Connectivity Inc.	P	MP			
Dave Higgins	Pathway Connectivity Inc.	Pathway Connectivity Inc.	A	MP	1		
Kevin Loewen	Pathway Connectivity Inc.	Pathway Connectivity Inc.	A	MP			
Nic Bowker	PLASA	PLASA	P	G	1		
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	1		
Stéphane Jacob	TIR Systems Ltd.	TIR Systems Ltd.	P	MP			
Mitch Hefter	Entertainment Technology (Genlyte Group)	USITT	P	U	1		
John Sondericker III	Wybron, Inc.	Wybron, Inc.	P	MP	1		
		total	28		20	0	0
		by interest category	12	MP	10	0	0
			4	CP	3	0	0
			5	DR	2	0	0
			4	U	3	0	0
			3	G	2	0	0

8.3 E1.17 Multipurpose Control Network Protocol Suite

8.3.1 Report on comments (CP/2005-1004)

Dan Antonuk briefly described the comments received.

8.3.2 Report on resolutions

Dan Antonuk reported that the task group has been working on the various protocols that make up the suite as a result of the public review comments. He listed some of the changes, which include strengthening the concept of connectedness, determining how something is still on-line, and modifying the DDL to make better object-oriented characteristics.

8.3.3 Revised document

Antonuk reported that he thinks the task group will have a revised version of BSR E1.17 ready for approval at LDI. He would like to do what Scott Blair had done with BSR E1.20 in getting pre-approval for a public review from the TSC.

8.3.4 Practical issues of ACN Implementation — Use of Interoperability Profiles

Philip Nye gave a presentation.

The Interoperability Profiles specify a series of templates that can be used to simplify the DDLs and to indicate how things would communicate with each other. For example, how does it get an IP address?

ACN is getting more prescriptive and less open-ended as a way of dealing with the practical aspects of communicating with real-world devices in reasonable time. The open-ended DDL, for example, would still be available for odd stuff, but it would not be the only way.

8.4 E1.11 Recommended Practice — Bachman

Bachman was not present. There was no report

8.5 ANSI E1.11 auf Deutsch

Karl Ruling had nothing to report.

9 New business—Nomination of new chairman

People wrote their nominations on the note cards supplied by the hotel, and these were collected by Karl Ruling. After those who did not wish to serve removed their names, the nominations were:

Wayne Howell
Michael Lay
Steve Terry
Peter Willis

The election will be conducted by letter ballot as agreed at the 21 October 2004 working group meeting held at Harrah's Las Vegas Casino & Hotel.

10 Other business

None.

11 Schedule for future meetings

Steve Terry announced that the next meeting is scheduled for Thursday, November 10, from 9:00 to 13:00.

12 Changes to observer status due to lack of attendance

The following voter had missed the previous two meetings:
Stéphane Jacob; TIR Systems Ltd.

Steve Terry announced that Stéphane Jacob of TIR Systems Ltd. was not present and therefore had failed to fulfill the minimum attendance requirements for a voting member. He was now moved to observer status.

13 Adjournment

Dan Antonuk moved that the meeting adjourn. The motion was seconded. The motion was approved by a voice vote. Terry declared the meeting adjourned at 12:15.

Working Group Membership and Contact Information as of 15 August 2005

Name	Company	Representing (This is the primary sort field.)	Voting 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.	P	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
Simon Hobday	Artistic Licence (UK) Ltd.	Artistic Licence (UK) Ltd.	A	CP
Wayne David Howell	Artistic Licence (UK) Ltd.	Artistic Licence (UK) Ltd.	P	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
Milton Davis	Doug Fleenor Design, Inc.	Doug Fleenor Design, Inc.	A	MP
Ken Wagner	Doug Fleenor Design, Inc.	Doug Fleenor Design, Inc.	A	MP
Doug Fleenor	Doug Fleenor Design, Inc.	Doug Fleenor Design, Inc.	P	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
Steve Terry	Electronic Theatre Controls	Electronic Theatre Controls, Inc.	A	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
Daniel W. Antonuk	Electronic Theatre Controls, Inc.	Electronic Theatre Controls, Inc.	P	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

Name	Company	Representing (This is the primary sort field.)	Voting status	Int. Cat.
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
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
Jason Potterf	High End Systems Inc.	High End Systems Inc.	A	MP
Martin Walton	High End Systems Inc.	High End Systems Inc.	O	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
Steve Carlson	High Speed Design, Inc.	High Speed Design, Inc.	O	MP
Robert Bell	Horizon Control Inc.	Horizon Control Inc.	A	MP
Alan Martello	Horizon Control Inc.	Horizon Control Inc.	P	MP
Peter Willis	Howard Eaton Lighting Ltd.	Howard Eaton Lighting Ltd.	P	CP
John Huntington	I.A.T.S.E. Local 1	I.A.T.S.E. Local 1	A	U
Edwin S. Kramer	I.A.T.S.E. Local 1	I.A.T.S.E. Local 1	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
Roger Lattin	I.A.T.S.E. Local 728	I.A.T.S.E. Local 728	P	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
Mark Jensen	Intelligent Control Devices	Intelligent Control Devices	P	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
George Kindler	Kelley Technologies LLC	Kelley Technologies LLC	P	DR
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
Ken Vannice	Colortran	Leviton Manufacturing Co., Inc.	A	MP
Rick Leinen	Colortran	Leviton Manufacturing Co., Inc.	P	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	P	DR
Torben Kaas Rasmussen	Martin Professional A/S	Martin Professional A/S	A	G
Ole Bystrup	Martin Professional A/S	Martin Professional A/S	P	G
Hiroshi Kita	Marumo Electric Co., Ltd.	Marumo Electric Co., Ltd.	O	MP
Paul McEwan	Northern Light	Northern Light	O	DR
Petri Laine	Obelux Oy	Obelux Oy	O	CP

Name	Company	Representing (This is the primary sort field.)	Voting status	Int. Cat.
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
Dave Higgins	Pathway Connectivity Inc.	Pathway Connectivity Inc.	A	MP
Kevin Loewen	Pathway Connectivity Inc.	Pathway Connectivity Inc.	A	MP
Greg Reimer	Pathway Connectivity Inc.	Pathway Connectivity Inc.	O	MP
Gary Douglas	Pathway Connectivity Inc.	Pathway Connectivity Inc.	P	MP
James Eade	PLASA	PLASA	O	G
Nic Bowker	PLASA	PLASA	P	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
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
François Mondié	Robert Juliat	Robert Juliat	O	MP
Michael A. (Sandy) Twose	Sand Network Systems	Sand Network Systems	A	MP
Yngve Sandboe	Sand Network Systems	Sand Network Systems	A	MP
Hans Lau	Sand Network Systems	Sand Network Systems	P	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
Ujjal Kar	Standard Robotics & Lighting	Standard Robotics & Lighting	O	G
Michael Lay	Strand Lighting	Strand Lighting Ltd.	A	MP
Richard Lawrence	Strand Lighting Ltd.	Strand Lighting Ltd.	P	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