

Minutes
Control Protocols Working Group

Saturday, 20 January 2007
Dallas/Ft. Worth Airport Marriott South
Ft. Worth, Texas

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

Recording secretary: Karl G. Ruling; ESTA

Members attending:

Wayne David Howell; Artistic Licence (UK) Ltd.; P; CP
Tobin Neis; Barbizon Companies; P; DR
Doug Fleenor; Doug Fleenor Design, Inc.; P; MP
Daniel W. Antonuk; Electronic Theatre Controls, Inc.; P; MP
Ralph Weber; ENDL Texas; P; G
Philip Nye; Engineering Arts; P; G
Michael Lay; Strand Lighting (Genlyte Group LLC); P; MP
Robert Goddard; Goddard Design Co.; P; MP
Scott M. Blair; High End Systems Inc.; P; MP
Alan Martello; Horizon Control Inc.; P; MP
Robert Bell; Horizon Control Inc.; A; MP
Peter Willis; Howard Eaton Lighting Ltd.; P; CP
Edwin S. Kramer; I.A.T.S.E. Local 1; P; U
Roger Lattin; I.A.T.S.E. Local 728; P; U
John (Javid) D. Butler; Integrated Theatre, Inc.; Inc.; P; CP
Ken Vannice; Colortran (Leviton Manufacturing Co., Inc.); A; MP
Gary Douglas; Pathway Connectivity Inc.; P; MP
Ron Bonner; PLASA; P; G
Mitch Hefter; Entertainment Technology (Genlyte Group), representing USITT; P; U

Visitors: Marshall Anschutz; Ice House Productions
Ian Foulds; EESCO

1 Opening remarks

Steve Terry called the meeting to order at 08:59.

2 Attendance

2.1 Introductions of those present and circulation of attendance sheet

People introduced themselves to the others at the table, while a yellow attendance sign-in sheet was circulated.

2.2 Determination of a quorum

Steve Terry asked the principals present to raise a hand. He counted the raised hands and then announced that a quorum was present.

2.3 Recognition of alternate voting members

Terry reminded alternates that they may not vote on the same question on which their principal is voting.

3 Membership

3.1 Requirements for membership

The following statement was read aloud to the assembly by Steve Terry:

"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."

Terry made an extemporaneous appeal for people to recruit new members in the noted interest categories. We also could use some younger members, he said, noting that we're all getting older.

3.2 Processing of new membership requests

Applications have been received from:

Ron Bonner; PLASA; P; G (to replace Nic Bowker)
Josh Gubler; O; CP

Eddie Kramer moved that the applications be accepted. The motion was seconded and then approved with a unanimous show of hands

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

Name	Company	Representing	Voting status	Int. cat.
Jean-Francois Canuel	Spectrum Manufacturing Inc.	A.C. Lighting Ltd.	P	CP
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
Ralph Weber	ENDL Texas	ENDL Texas	P	G
Phillip Nye	Engineering Arts	Engineering Arts	P	G
Michael Lay	Strand Lighting	Genlyte Group LLC	P	MP
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	City Tech, Ent Tech Department	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	IATSE 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
Rick Leinen	Colortran	Leviton Manufacturing Co., Inc.	P	MP

Name	Company	Representing	Voting status	Int. cat.
Ken Vannice	Colortran	Leviton Manufacturing Co., Inc.	A	MP
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
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
Ron Bonner	PLASA	PLASA	P	G
Charles Reese	Production Resource Group	Production Resource Group	P	DR
Hans Lau	Sand Network Systems, Inc.	Sand Network Systems, Inc.	P	MP
Yngve Sandboe	Sand Network Systems, Inc.	Sand Network Systems, Inc.	A	MP
Kimberly Corbett	Schuler Shook	Schuler Shook	P	G
Mitch Hefter	Entertainment Technology (Genlyte Group)	USITT	P	U
		Total votes	25	
		Votes by interest category	4	CP
			10	MP
			2	DR
			4	U
			5	G

4 Approval of the minutes from the previous meeting (See file CPmin10-2006.pdf.)

Javid Butler moved that the draft minutes be approved as written. The motion was seconded, and then approved with a show of hands.

5 Reading of the call for patents

The following statement was read aloud to the assembly by Tracy Underhill:

"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."

Wayne Howell brought the group's attention to the Color Kinetics patent 7,161,556. He said it seems to patent elements of ANSI E1.20-2006, RDM. Goddard pointed out a Goddard/Callahan patent that might read on 7,161,556. Goddard didn't remember the patent number, but suggested it would predate the CK patent and invalidate the novelty of at least some of the CK patent's claims. Terry suggested that people look at the CORTLI lighting control system developed by Jame Seawright et alia and used by the Mimi Garrard Dance Theatre. It uses a time-line for developing the lighting effects and predates the CK patent filing by more than a decade. Gary Douglas of Pathway Connectivity suggested that we also look at DALI for prior art on the CK patent.

Tracy Underhill suggested we look at the KSR versus Teleflex case, which may rewrite the rules of obviousness when the Supreme Court hands down its ruling in July 2007.

6 The reading of the anti-trust statement

The following statement was read aloud to the assembly by Tracy Underhill:

"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 that they were readily available.

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

7 Approval of agenda

Javid Butler moved that the draft agenda be accepted. The motion was seconded. The motion was approved with a show of hands.

8 Old business

8.1 Reaffirmation of ANSI E1.3-2001

It was announced that the reaffirmation is published as ANSI E1.3-2001 (R2006).

8.2 E1.11/DMX512-A Recommended Practice

Peter Willis reported that he has done no work on this since LDI. His travel schedule has interfered with his work on this.

Mitch Hefter reported on the questions about ANSI E1.11-2004 raised by Dean Liu, a professor at the Shanghai Theatre Academy in the People's Republic of China, which point out some typos and murky phrases in the document. He suggested that when his reply is worked out, that we can decide what to do to correct or smooth the language. Perhaps we can simply issue an errata or, if that makes us uneasy because the changes come too close to being substantive changes to the document, to formally revise the standard with a public review.

8.3 ANSI E1.11 auf Deutsch

Karl Ruling reported that he was surprised that he hasn't seen the German document in published form yet. He reviewed the German translation at the PLASA trade show, looking for the typos he knew were in the first printed English edition and made sure that they were not there. His German is not good enough to be able to read the who standard in any reasonable time, but the translation appeared to be in good shape. It only needed to be laid out with the graphics.

8.4 ANSI E1.20-2006, Remote Device Management

Scott Blair reported that a few problems have shown up. These are mainly with the examples in that the examples do not match the actual requirements. There was discussion of what to do about this, and the sense of the group was that the full list of errata should be developed as quickly as possible. When that is done, the working group can see if correcting these errata would require another public review.

Peter Willis reported that Howard Eaton Lighting has developed an RDM lab pack, a device that will help sort out RDM problems.

Bob Goddard and Wayne Howell also have developed something that can send and receive SIPS, which is a message useful for diagnosing E1.11 system problems.

8.5 E1.17 Multipurpose Control Network Protocol Suite

Dan Antonuk reported that ETC has written a packet dissector for Wire Shark and that Pathway has something similar.

Antonuk also reported that Shure is adopting ACN as an audio control system. Their products are based on DSPs, so they are configurable, but they need to be able to be controlled over a network.

Philip Nye reported that there is an open ACN movement among several manufacturers. This is something that should be taking off in a few weeks. Gary Douglas stated that Pathway Connectivity will make its ACN code available once it is stripped of the few proprietary bits that relate only to Pathway Connectivity products.

Dan Antonuk said that ETC will post its code for streaming DMX512-type data using ACN on its website for free download.

8.6 E1.27-X, cabling

8.6.1 ANSI E1.27-1-2006 portable cabling

It's published. No news.

8.6.2 First public review of E1.27-2

The public review closed at the end of the day 25 December 2006. Javid Butler said that he and his task group have drafted suggested resolutions for all the comments. He said that a clean copy of the resolutions and a revised draft standard should be ready for the USITT meeting. He asked that Steve Terry preload the TSC with a vote for another public review.

Butler reported that the clause on connectors has been expanded, so that there is more information on non-XLR connectors and how to terminate the connectors. It cleans up how to deal with the internal connectors of a device, which had been largely disregarded before. The changed document is still congruent with ANSI E1.11.

Javid Butler said that the new document allows power over the blue-white pair of a Cat 5 cable, but it does not allow that power to appear on the 5-pin XLR. There was discussion of this. The argument for this specification of power on the pair was that it provided a use for the normally unused pair, rather than leaving their use undefined, so we are less likely to discover really inappropriate uses for the pair in the field. There was discussion of this, which was taken to be a new, unexpected concept.

Steve Terry urged the working group members to carefully review the work of the task group. He used the case of the E1.4 rigging project to show the problems that result when working group members do not diligently vet the work of the task group or where people think that the working group members have not diligently vetted the work of the task group.

8.7 BSR E1.30, Application level equipment interoperability for control of commonly encountered entertainment technology devices using E1.17

Dan Antonuk said that they are now having weekly telephone conferences. They are trying to step up the pace, but he is disappointed in the rate of progress. The need for people to make a living is getting in the way of working on these standards. That is, the hinderance is time and not technical problems.

Part of their problem is also trying to figure out the level of complexity of the models. How low-level, how primitive, should the models be?

Alan Martello described the problems of modeling devices, particularly automated lights. His Horizon software uses one particular kind of model, but there are others. They need access to

those other models. He thanked Dan Antonuk for the useful information on how ETC models dimmers.

There was a discussion of the possible usefulness of the large luminaire library that Caralon has. Dan Antonuk said that they aren't ready yet for those luminaire libraries; they need to develop the primitives first.

8.8 BSR E1.31, Lightweight streaming protocol for transport of DMX512 using ACN

The recirculation ballot period ended at the end of the day on 12 January 2007, with no one changing his vote. Therefore, the motion carried with the required supermajority. Eighteen out of a voting body of 25 voted "Yes" and one voted "No with reasons." Six ballots were not returned.

	Total possible	Yes	Yes with comments	No with reasons	Abstain	Ballots not returned
MP	10	8				2
CP	4	1		1		2
DR	2	2				0
U	4	2				2
G	5	5				0
Total	25	18	0	1	0	6

The document is now in public review, and will be through 19 March 2007, but that was one No vote in the working group. That vote argued that we need to work out E1.33 before E1.31 is offered for public review. There was discussion of the reasons for the No vote.

Goddard argued that we can work on E1.31 and put it forward for public review, but we're going to need to know how E1.33 will work with it before E1.31 is adopted as a standard. Dan Antonuk argued a slightly different version of this, stating that E1.31 can go forward before E1.33 is finished, but that some fairly clear idea of how E1.33 will work with E1.31 should be in place before E1.31 is issued. Dan Antonuk thought that enough progress would be made this weekend on E1.33 to lay those questions to rest.

Scott Blair described how much progress has been made on E1.33 and described a time-line for its development. He argued that E1.31 and E1.33 should be rolled into one.

Steve Terry said that he's hearing a lot of market pressure for E1.31 being issued soon as a simple, straightforward sending of DMX512-type data over ACN.

Javid Butler says the E1.31 doesn't provide a conceptual base for the EF protocols that are built into E1.11.

Gary Douglas said that we don't have the experience with RDM in the industry to know what problems are there. We'll be loading E1.31 with too much if we take on that.

Philip Nye said that a gateway from Ethernet to physical wire will have to have some sort of RDM functionality. There isn't going to be a way to just transparently pass RDM messages without having RDM functionality in the gateway.

Tracy Underhill said that back in Louisville the task group voted to do straight-forward zero START Code implementation for E1.31. Clearly some task group members have changed their minds on this, Terry noted.

Bob Goddard asked for a combined task group meeting from 9:00 to 18:00 on Friday during the summer meeting.

8.9 BSR E1.33-200x, Extensions to E1.31 (DMX512 Streaming Protocol) for Transport of ANSI E1.20 (RDM)

Charles Reese was not present, so there was no report from the task group leader.

8.10 BSR E1.37-200x—Additional Message Sets for ANSI E1.20, Remote Device Management

Scott Blair reported on the work done at the LDI task group meetings. The group is working on developing a flow chart for uploading software, which would be the main purpose for bulk data transport in the additional message sets.

Terry suggested that there is more market pressure for E1.31 than for E1.37.

Gary Douglas said that Pathway has developed a firmware upload method of RDM, but they need to work out flowcharts for doing this so that the task group can consider adopting this method for E1.37.

9 New business

None.

10 Other business

Ron Bonner reported that an RDM plug fest is to be held by PLASA in the UK at the end of February 2007.

There was a discussion of RDM marketing. Blair asked for a connectivity pavilion at LDI. Bonner said that they were looking at having such a thing at PLASA.

11 Schedule for future meetings

It was announced that the next working group meeting is scheduled for Thursday, 15 March 2007 at the Hyatt Regency Phoenix in Phoenix, AZ, but that the time is from 09:00 to 18:00 in the evening. The consensus was that this was too long a period. It should be scheduled to end at 13:00, and the BSR E1.27 task group meeting now scheduled for the morning in conflict with the working group meeting should be moved to the afternoon, after the CPWG meeting has adjourned.

12 Changes to observer status due to lack of attendance

Voting members who have missed the previous two meetings and will be moved to observer status if this meeting also is missed:

Wayne Howell and Simon Hobday of Artistic Licence (UK) Ltd.

Wayne Howell was present, so there was no voting status change.

13 Adjournment

Mtch Hefter moved that the meeting adjourn. The motion was seconded and then approved by acclamation. Steve Terry declared the meeting adjourned at 11:19.

Working Group Membership and Contact Information as of 06 February 2007

Name	Company	Representing (This is the sort field.)	Vote status	Int. cat.
Jean-Francois Canuel	Spectrum Manufacturing Inc.	A.C. Lighting Ltd.	P	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	Bloch Design Group, Inc.	Bloch Design Group, Inc.	O	G
Soo-Myong Chung	Bloch Design Group, Inc.	Bloch Design Group, Inc.	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
Bob Toms	Catalyst Microsystems LLC	Catalyst Microsystems LLC	O	G
Marty Lazarus	Chicago Spotlight, Inc.	Chicago Spotlight, Inc.	O	G
Chuck Seifried	Phoenix Civic Plaza	City of Phoenix	O	U
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
Dirk Beiner	e:cue GmbH & Co. KG	e:cue GmbH & Co. KG	O	MP
Jussi Kallioinen	Eastway Sound & Lighting	Eastway Sound & Lighting	O	U
Edward R. Condit	Edward R. Condit	Edward R. Condit	O	G
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
Adam Bennette	Electronic Theatre Controls Ltd.	Electronic Theatre Controls, Inc.	O	MP
Hans Leiter	ETC GmbH	Electronic Theatre Controls, Inc.	O	MP
Anders Ekvall	Transtechnik Lichtsysteme GmbH	Electronic Theatre Controls, Inc.	O	MP

Name	Company	Representing (This is the sort field.)	Vote status	Int. cat.
Steve Terry	Electronic Theatre Controls	Electronic Theatre Controls, Inc.	A	MP
Tracy Underhill	Electronics Diversified Inc.	Electronics Diversified Inc.	P	MP
Ralph Weber	ENDL Texas	ENDL Texas	P	G
Philip Nye	Engineering Arts	Engineering Arts	P	G
Erwin Rol	Erwin Rol Software Engineering	Erwin Rol	O	G
Michael Lay	Strand Lighting	Genlyte Group LLC	P	MP
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
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
Tom Grimes	High End Systems, Inc.	High End Systems, Inc.	A	MP
Jason Potterf	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
Peter Willis	Howard Eaton Lighting Ltd.	Howard Eaton Lighting Ltd.	P	CP
Paul J. Clark	HxDx	HxDx	O	CP
Edwin S. Kramer	I.A.T.S.E. Local 1	I.A.T.S.E. Local 1	P	U
John Huntington	City Tech, Ent Tech Department	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	IATSE 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
Josh Gubler	Josh Gubler	Josh Gubler	O	CP
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
Avraham Mendall Mor "Avi"	Lightswitch	Lightswitch	O	U
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

Name	Company	Representing (This is the sort field.)	Vote status	Int. cat.
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
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
Dave Higgins	Pathway Connectivity Inc.	Pathway Connectivity Inc.	A	MP
Kevin Loewen	Pathway Connectivity Inc.	Pathway Connectivity Inc.	A	MP
Ron Bonner	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, Inc.	Sand Network Systems, Inc.	P	MP
Yngve Sandboe	Sand Network Systems, Inc.	Sand Network Systems, Inc.	A	MP
Kenneth Mockler	Sceno Plus	Sceno Plus	O	U
Kimberly Corbett	Schuler Shook	Schuler Shook	P	G
Mick Martin	ShowCAD Control Systems	ShowCAD Control Systems	O	MP
Loren Wilton	Showman Systems	Showman Systems	O	CP
Mark Manthei	Shure Inc.	Shure Inc.	O	G
Kehang Wu	Shure Inc.	Shure Inc.	O	G
Yelena Akhramkov	Shure Inc.	Shure Inc.	O	G
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
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
Colin Waters	TMB	TMB	O	U
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

Name	Company	Representing (This is the sort field.)	Vote status	Int. cat.
John Sondericker III	Wybron, Inc.	Wybron, Inc.	O	MP
Paul Kenneth McEwan	Zero 88 Lighting Limited	Zero 88 Lighting Ltd.	O	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