

**Minutes**  
**Control Protocols Working Group**  
Saturday, 14 July 2001  
Dallas/Ft. Worth Airport Marriott  
Irving, Texas

**Chairperson:** Steve Terry; Electronic Theatre Controls, Inc.; alternate; producer (rejoined with a new company affiliation at this meeting)

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

**Members attending:** Arnold Tang; Arnold Tang Productions; principal; user (joined at this meeting)  
Wayne David Howell; Artistic Licence (UK) Ltd.; principal; producer  
Tobin Neis; Barbizon Companies; principal; user  
Doug Fleenor; Doug Fleenor Design, Inc.; principal; producer  
Milton Davis; Doug Fleenor Design, Inc.; alternate; producer  
Ed Jones; Edwin Jones Co., Inc.; principal; producer  
Tracy Underhill; Electronics Diversified Inc.; principal; producer  
Robert Goddard; Goddard Design Co.; principal; producer  
Trevor Forrest; Helvar Lighting Control; principal; producer  
Scott Blair; High End Systems Inc.; principal; producer  
Peter Willis; Howard Eaton Lighting Ltd.; principal; producer  
Edwin S. Kramer; I.A.T.S.E. Local 1; principal; user  
Roger Lattin; IATSE Local 728; principal; user  
Ken Vannice; NSI Corporation, representing Leviton Manufacturing Co., Inc.; alternate; producer  
Ole Pedersen; Martin Professional A/S; principal; producer  
Martin Hjort; Martin Professional A/S; alternate; producer (joined at this meeting)  
Gary Douglas; Pathway Connectivity Inc.; alternate; producer (joined at this meeting)  
George Kindler; SPL Integrated Solutions, representing Signal Perfection Ltd.; principal; user  
Brian Dowd; TMB Associates; principal; user  
Mitch Hefter; Rosco/Entertainment Technology, representing USITT; principal; user  
Charles Reese; Vari-Lite, Inc.; principal; producer  
Alfred Langguth; Vari-Lite, Inc.; alternate; producer (joined at this meeting)

**1 Opening remarks**

Steve Terry called the meeting to order at 09:08 and welcomed all.

**2 Attendance and membership**

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

A shocking pink sign-in sheet was circulated to take attendance.

Terry asked those present to introduce themselves, which they did, proceeding in a counter-clockwise direction.

Peter Willis asked if anybody not in attendance had sent in their regrets. Ruling replied that they had, and listed those who had sent messages expressing their regrets for not being able to attend the meeting:

Tim Bachman; Leviton  
Tim Cox; PLASA  
Jon Farley; Rosco/ET  
Steve Carlson; High Speed Design

David George; Spectrum Manufacturing  
 Philip Nye; Engineering Arts  
 Steve Unwin; Pulsar Ltd.

**2.2 Determination of quorum**

Terry asked for a show of hands of principal voting members, or alternates if the principal is not present. Terry counted the hands and announced that we have a quorum.

**2.3 Recognition of alternate voting members**

Terry asked that alternate voting members identify themselves. Milton Davis of Doug Fleenor Design was present along with the company's principal, Doug Fleenor. Davis and Fleenor were reminded that only one vote per company is allowed.

**2.4 Requirements for membership**

Terry stated that membership is open to all interested parties who are directly and materially affected by the work of the group. He noted that voting members are required to attend meetings. They must commit to four meetings a year. Failure by a principal and his or her alternate to attend three meetings in a row will result in a change of voting status to observer.

**2.5 Processing of new membership requests**

Terry read the applications from the following people:

- Alfred Langguth of Vari-Lite, Inc., applying as alternate, producer
- Douglas Franz of QVC Network, applying as observer, user
- Jim Holladay of Luxence, applying as observer, general interest
- William Hewlett of Hewlett Electronics, applying as observer, producer
- Gary Douglas of Pathway Connectivity, applying to replace Sandy Twose as alternate, producer
- Steve Terry of Electronics Theatre Controls, applying with a new company affiliation as an alternate, producer
- Martin Hjort of Martin Professional A/S, applying as an alternate, producer
- Arnold Tang of Arnold Tang Productions, applying as a principal, user

Eddie Kramer moved that we accept the applications. The motion was seconded. The motion was accepted unanimously by a show of hands.

The voting body for this meeting was thus:

Name	Company	Representing	Voting status	Interest cat.
John Sellers	AIM Northwest	AIM Northwest	P	G
Tony de Rijk	Amazing Controls! Inc.	Amazing Controls! Inc.	P	P
Arnold Tang	Arnold Tang Productions	Arnold Tang Productions	P	U
Wayne David Howell	Artistic Licence (UK) Ltd.	Artistic Licence (UK) Ltd.	P	P
Tobin Neis	Barbizon Companies	Barbizon Companies	P	U
Doug Fleenor	Doug Fleenor Design, Inc.	Doug Fleenor Design, Inc.	P	P
Milton Davis	Doug Fleenor Design, Inc.	Doug Fleenor Design, Inc.	A	P
Ed Jones	Edwin Jones Co., Inc.	Edwin Jones Co., Inc.	P	P
Greg Heinze	Electronic Theatre Controls, Inc.	Electronic Theatre Controls, Inc.	P	P
Ed Prasser	Electronic Theatre Controls, Inc.	Electronic Theatre Controls, Inc.	A	P
Steve Terry	Electronic Theatre Controls	Electronic Theatre Controls, Inc.	A	P
Tracy Underhill	Electronics Diversified Inc.	Electronics Diversified Inc.	P	P
Scott Rempel	Electronics Diversified Inc.	Electronics Diversified Inc.	A	P
Philip Nye	Engineering Arts	Engineering Arts	P	G
Robert Goddard	Goddard Design Co.	Goddard Design Co.	P	P
Dexter McNeil	Goddard Design Co.	Goddard Design Co.	A	P
Trevor Forrest	Helvar Lighting Control	Helvar Lighting Control	P	P
Scott Blair	High End Systems Inc.	High End Systems Inc.	P	P
Steve Carlson	High Speed Design, Inc.	High Speed Design, Inc.	P	P
Peter Willis	Howard Eaton Lighting Ltd.	Howard Eaton Lighting Ltd.	P	P
Richard Thornton Brown	Zero 88 Ltd.	i Light Group PLC	P	P
Peter Brooks	Zero 88 Ltd.	i Light Group PLC	A	P

Name (continued)	Company (continued)	Representing (continued)	Voting status	Interest cat.
Edwin S. Kramer	IATSE, Local 1	I.A.T.S.E. Local 1	P	U
John Huntington	IATSE Local 1	I.A.T.S.E. Local 1	A	U
Roger Lattin	IATSE Local 728	I.A.T.S.E. Local 728	P	U
Edward Paget	Jones & Phillips Associates, Inc.	Jones & Phillips Associates, Inc.	P	G
Rick Leinen	NSI Corporation	Leviton Manufacturing Co., Inc.	P	P
Ken Vannice	NSI Corporation	Leviton Manufacturing Co., Inc.	A	P
Tim Bachman	Leviton / Colortran	Leviton Manufacturing Co., Inc.	A	P
Ole Pedersen	Martin Professional A/S	Martin Professional A/S	P	P
Martin Hjort	Martin Professional A/S	Martin Professional A/S	A	P
Dave Higgins	Pathway Connectivity Inc.	Pathway Connectivity Inc.	P	P
Gary Douglas	Pathway Connectivity Inc.	Pathway Connectivity Inc.	A	P
Tim Cox	PLASA	PLASA	P	G
Tony Douglas-Beveridge	PLASA	PLASA	A	G
Robert Barbagallo	Proximo Inc.	Proximo Inc.	P	U
Paul F. Mardon	Pulsar Ltd.	Pulsar Ltd.	P	P
Steve Unwin	Pulsar Ltd.	Pulsar Ltd.	A	P
Jon R. Farley	Rosco/Entertainment Technology	Rosco Laboratories	P	P
George Kindler	SPL Integrated Solutions	Signal Perfection Ltd.	P	U
David George	Spectrum Manufacturing Inc.	Spectrum Manufacturing Inc.	P	P
Richard Lawrence	Strand Lighting Ltd.	Strand Lighting Ltd.	P	P
Michael Lay	Strand Lighting	Strand Lighting Ltd.	A	P
Jerry Gorrell	Theatre Safety Programs	Theatre Safety Programs	P	G
Brian Dowd	TMB Associates (NJ)	TMB Associates	P	U
Mitch Hefter	Rosco/Entertainment Technology	USITT	P	U
Charles Reese	Vari-Lite, Inc.	Vari-Lite, Inc.	P	P
Alfred Langguth	Vari-Lite, Inc.	Vari-Lite, Inc.	A	P
Eckart Steffens	SOUNDLIGHT	VPLT	P	G
			34 total votes	20 P 8 U 6 G

### 3 Approval of the minutes from the previous meeting

Mitch Hefter moved that the minutes of the March 2001 meeting be accepted as written. The motion was seconded. By a show of hands, the motion was accepted unanimously, except for two abstentions from those who had not been present at the last meeting.

### 4 Call for patents

The following was read aloud by Steve Terry:

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

"In keeping with the open disclosure policy, I ask if anyone present wishes to notify the working group of the existence of a patent or copyright that might protect material in a standard being developed by the working group. You need not be the holder of the patent or copyright in order to notify the working group of its existence."

Karl Ruling noted the Vari-Lite and Leviton patents and that letters stating a willingness by these companies to license the protected technology to anyone for a reasonable were either in hand or in the process of being obtained.

Terry also read the following anti-trust statement aloud:

"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 \$100,000 and imprisoned for up to three years. An easy to read pamphlet describing restraint of trade issues is available from the Technical Standards Manager."

Karl Ruling, the Technical Standards Manager, waved copies of the easy-to-read pamphlet above his head, and distributed some copies to new members.

## **5 Approval of agenda**

Three items of business were added under new business. Terry asked for a show of approval of the agenda with these additions. The approval was shown by a unanimous show of hands.

## **6 Old business**

### **6.1 E1.11**

#### **6.2.1 Public review comment resolution progress report**

Mitch Hefter reported that the task group was able to resolve 45 or 46 of the proposals at the previous night's task group meeting. He asked that anyone with issues that they would like addressed bring them to his attention now.

Terry praised the task group for making great progress on the comment resolutions.

Hefter said that the goal is to get the comment resolutions finished this weekend. This is not likely, he admitted, but most of the work should be done.

There was a discussion of the PICS for the new standard and whether to develop it at the same time as the document or later, and whether to bind it with the document or keep it separate. The PICS could help us to make sure the document is clearly written, but it would have to be redone as the document develops.

Wayne Howell moved that we uncouple the PICS from E1.11 and make it a separate document. The motion was seconded. The motion was approved unanimously by a show of hands.

There was a discussion of whether there should be some introductory text for the novice. The consensus was that there should be.

There was a discussion of whether significant requirements should be listed in appendices or annexes. Hefter said that the task group had agreed to move some of the annex material from the draft document into the main body of the revised document. The intention is to make it possible to build E1.11-compliant equipment that works without referring to annexes. This proposal was well-received.

#### **6.2.2 Recommended practice document for E1.11**

Wayne Howell and Peter Willis presented an [outline of objectives \(E1-11 RP Report.pdf\)](#) detailing how a recommended practice document for E1.11 shall be developed.

#### **6.2.3 Accessory power with E1.11**

Doug Fleenor reported that he hadn't made any progress on it because he has been putting his effort into the polled talkback project. Fleenor said that he didn't sense much pressure to accomplish this project from interested parties.

There was a discussion of how much interest by how many parties would constitute enough support to continue with this project. It was noted that the interested parties seem to be also interested in other E1.11 projects. The consensus was that this accessory power project should remain as a study group for now and that Fleenor shall prepare a more detailed report for the LDI meeting.

#### **6.2.4 Polled talkback for E1.11**

Discussion of polled talkback for E1.11 was conducted after a lunch break. At that time, a [PowerPoint presentation \(RDM-Presentation2.pdf\)](#) outlining the objectives of the project was presented. Scott Blair explained that polled talkback for E1.11 would be a generic implementation of the High End Systems talkback.

A discussion ensued of how this polled talkback for E1.11 could interface with E1.17 and how the two would co-exist in the market. It was argued that polled talkback would provide a bridge between E1.17 (ACN) and more primitive DMX devices. Blair stated that most DMX devices now being manufactured have the capability of supporting polled talkback or could have this with a firmware upgrade, but that these same devices would not have the ability to run a full implementation of ACN.

Wayne Howell moved that the report of the study group be accepted and that the study group shall be changed to a standards-drafting task group. The motion was seconded. By a show of hands, 18 were in favor and none opposed. The chairman abstained. (During this section of the meeting, one of the voting members initially present was out of the room.) The motion was accepted.

Doug Fleenor moved that the project be called "Remote Device Management Over USITT DMX512." The motion was seconded. By a show of hands, 18 were in favor and none opposed. The chairman abstained. (During this section of the meeting, one of the voting members initially present was out of the room.) The motion was accepted.

Scott Blair moved that this project be a project to draft an American National Standard. The motion was seconded. By a show of hands, 18 were in favor and none opposed. The chairman abstained. (During this section of the meeting, one of the voting members initially present was out of the room.) The motion was accepted.

Steve Terry appointed Scott Blair to be the chairman of the RDM task group. Terry asked interested in being in the task group to sign a sheet to give to Scott Blair.

#### **6.2 E1.17 Task Group report**

[Steve Carlson's report \(acn\\_3\\_01.pdf\)](#) was presented by Mitch Hefter.

Trevor Forrest asked about the schedule for deliverables. Steve Terry said that they are becoming resource-bound, that is, limited by coding time. What has been done has been funded by Strand Lighting. What is needed is for people or companies to volunteer to support additional coding work.

#### **6.3 IEEE Report**

Ruling read Steve Carlson's IEEE report, which had been submitted by e-mail. He reported that 802.3ae (10GB Ethernet) has gone to the 2<sup>nd</sup> working group recirculation ballot and has resolved 396 comments from the 1st recirculated ballot and hopes to move to sponsor ballot.

802.3af (DTE Power) has published Draft 1.2 and has chartered Draft 2.0 for WG ballot in November. All technical changes have been made. Carlson is happy with this progress.

The EFM (Ethernet in the First Mile) Study Group expects to have their Project Authorization Request and Five Criteria approved and to become P802.3ag, the EFM Task Force. [This project is to deliver 10 megabit Ethernet over subscriber telephone wire up to 1 km.]

### **7 New business**

#### **7.1 Paul Pelletier's proposal:**

Paul Pelletier of Martin Canada had sent the following question and proposal to Karl Ruling via email:

My name is Paul Pelletier, I work for Martin Canada...

Also one of my part-time hobby is to build fixture profile for software like Martin Lightjockey and Martin Show Designer. In order to do a good job, I need a lot of information about the fixture. So far I found that only a few manufacturer have most of this info available and still there, there's always something missing...

So my suggestion is to create some kind of document that would explain how to create a DMX chart and what kind of information is needed in a user manual / website.

Here's a few example:

- Complete photometric with Candelas power
- Precise information about pan/tilt degree and speed
- List of gobo with their order and bitmaps file in resolution high enough (200x200)
- RGB equivalent for each color used in the fixture.
- Strobe frequency in hertz....

All this would make life of many people in the industry and also avoid error in fixture definition.

What do you think?

Wayne Howell noted that this proposal sounds very similar to the task group that we had set up for luminaire personalities and then abandoned because it duplicates the features of the Device Description Language that is part of ACN.

Bob Goddard argued that for this project to move forward, Mr. Pelletier would need to work on it. He noted that this is a software simulation project and not a control protocols project. He stated that we do not have the resources in this working group to undertake this project. Kramer agreed that this is a software modeling project and is not appropriate for this group.

Fleenor asked if there is a burning desire on the part of anyone present to undertake this project.

Eddie Kramer moved that the following statement to be sent as a response to Mr. Pelletier:  
"We do not have the resources to undertake this project at this time. However, we encourage Mr. Pelletier to consult with other people who do software modeling to determine if there is wider interest in the industry in this project. If such interest can be determined and there are enough interested parties who will work on the project, ESTA can undertake the development of a working group to work on a standard."

Kramer's motion was seconded. The motion was approved unanimously with a show of hands.

## **7.2 Off-site meeting discussion**

There was a discussion of the problems caused by moving task group meetings normally scheduled as part of the normal TSP meeting schedule off-site, particularly when the meetings are moved without sufficient notice being given to affected parties.

Ruling read the motion passed at the 13 July 2001 TSC meeting in this regard:

"Ken Vannice moved that the minutes of a working group meeting shall note the scheduling of any task group meetings. If a task group meeting is rescheduled, the task group chairs shall notify the Executive Director and Technical Standards Manager and the all members of the working group. Vannice's motion was seconded. It was accepted unanimously by a show of hands."

Ruling stated that he will note the task group meetings as part of the minutes for this meeting, and that any changes will have to be made in accord with this statement of policy from the TSC.

Arnold Tang drafted the following statement as the sense of the working group:

"The absence of even a single task group undermines the effectiveness of the quarterly CPWG meetings. Task group meetings shall by no means be discouraged, except when they are scheduled in conflict with a quarterly CPWG meeting."

Bob Goddard moved that the above statement be read into the minutes as the sense of the working group. The motion was seconded. The motion was approved unanimously by a show of hands.

### **7.3 Patent disclosure form discussion**

Steve Terry noted that there had been some discussion recently of what form should be used by companies or persons who own protected intellectual property that may have bearing on a standard to indicate their willingness to license the technology to anyone, on a non-discriminatory basis, for a reasonable fee. There had been a proposal to use a version of an IEEE form letter, but ANSI has a form letter also.

Ruling reported that this matter was discussed at the TSC meeting on the previous day (13 July) and that the decision there was to table this until version 4 of our P&P is accepted. At the TSC meeting, ESTA president Mike Wood had said that version 4 seems to address the problem and either the ANSI form or the IEEE form letter would address the patent policy requirements in version 4.

## **8 Other business**

### **8.1 Standardized policy for hard copy or web publishing**

Ruling reported that there had been a discussion at the TSC meeting of developing a standardized policy toward publishing on paper or on the Web. It had been decided that the TSC chair and ESTA president, in consultation with the ESTA staff, shall decide on a case by case basis how TSP documents shall be published, with a prejudice toward Web publication. Ruling said that he would ask the working group for its advice what would be the appropriate method of distribution, since the working group would probably have a good sense of the potential market for a document.

There was a discussion of standards as a revenue stream. Print on demand and electronic purchase of standards for download were identified as possible ways of publishing and selling standards in the future.

### **8.2 Martin request regarding patents**

Ole Pedersen expressed concern that ESTA's process of open patent disclosure might not uncover all the patents that are possibly relevant to ACN. He presented a letter that he felt would be useful for uncovering protected intellectual property.

Bob Goddard moved that Ole Pedersen's letter be sent to ESTA's legal counsel and the TSC. The motion was seconded. By show of hands: 13 in favor. Four opposed. One abstention. (During this section of the meeting, two voting members who had initially been present, where out of the room.) The motion passed.

Wayne Howell moved that the CPWG recommend that the TSC honor the request of the letter, if it is legally appropriate. The motion was seconded. By show of hands: 11 in favor, five opposed, and two abstentions. (During this section of the meeting, two voting members who had initially been present, where out of the room.) The motion passed.

## **9 Schedule for future meetings**

Ruling announced the schedule for future meetings.

The next set of meetings will be held at the Rosen Centre Hotel (9840 International Dr., Orlando, Florida):

**Control Protocols Working Group:** Thursday, 1 November 2001, 09:00- 18:00

**BSR E1.11 (DMX512A) Task Group:** Thursday, 1 November 2001, 13:00 - 18:00; Monday, 5 November 2001, 08:00 - 18:00

**BSR E1.17 (ACN) Task Group:** Tuesday, 30 October 2001, 09:00- 17:00; Wednesday, 31 October 2001, 09:00- 17:00  
**BSR E1.20 (RDM) Task Group:** Tuesday, 6 November 2001, 08:00 to 18:00

The following meetings will be held at the Hyatt Regency New Orleans at the Louisiana Superdome (500 Poydras Plaza, New Orleans):

**Control Protocols Working Group:** Thursday, 14 February 2002, 09:00 - 18:00  
**BSR E1.11 (DMX512A) Task Group:** Thursday, 14 February 2002, 13:00 - 18:00; Sunday, 17 February 2002, 08:00 - 13:00  
**BSR E1.17 (ACN) Task Group:** Sunday, 17 February 2002, 09:00 - 18:00  
**BSR E1.20 (RDM) Task Group:** To be announced.

**10 Adjournment**

Ken Vannice moved that the meeting adjourn. The motion was seconded. The motion was approved unanimously by a voice vote. Steve Terry declared the meeting adjourned at 16:43.



### CPWG Membership After the 14 July 2001 Meeting

Name	Company	Representing	Voting status	Int. cat.
John Sellers	AIM Northwest	AIM Northwest	P	G
Tony de Rijk	Amazing Controls! Inc.	Amazing Controls! Inc.	P	P
Arnold Tang	Arnold Tang Productions	Arnold Tang Productions	P	U
Wayne David Howell	Artistic Licence (UK) Ltd.	Artistic Licence (UK) Ltd.	P	P
Steve Friedlander	Auerbach & Associates, Inc.	Auerbach & Associates, Inc.	O	U
Sierk Janszen	Avenger Showcontrol	Avenger Showcontrol	O	P
J. B. Toby	Avolites Ltd.	Avolites Ltd.	O	P
Shahid Anwar	Avolites Ltd.	Avolites Ltd.	O	P
Richard Salzedo	Avolites Ltd.	Avolites Ltd.	O	P
Barbara Wohlsen	Barbara Wohlsen	Barbara Wohlsen	O	U
Tobin Neis	Barbizon Companies	Barbizon Companies	P	U
Bernardo Benito Rico	Ben-Ri Electronica S.A.	Ben-Ri Electronica S.A.	O	P
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 Klinkrad	Bradley Klinkrad	Bradley Klinkrad	O	G
Ted Fregon	Bytecraft Pty. Ltd.	Bytecraft Pty. Ltd.	O	P
Bill Ellis	Candela Controls, Inc.	Candela Controls, Inc.	O	U
Marty Lazarus	Chicago Spotlight, Inc.	Chicago Spotlight, Inc.	O	G
Tal Miron	Compulite R & D	Compulite R & D	O	P
Jason Friedman	Creative Realities, Inc.	Creative Realities, Inc.	O	G
David Bertenshaw	David Bertenshaw	David Bertenshaw	O	P

Name	Company	Representing	Voting status	Int. cat.
Doug Fleenor	Doug Fleenor Design, Inc.	Doug Fleenor Design, Inc.	P	P
Milton Davis	Doug Fleenor Design, Inc.	Doug Fleenor Design, Inc.	A	P
Gary Dove	Dove Systems	Dove Systems	O	P
Jussi Kallioinen	Eastway Sound & Lighting	Eastway Sound & Lighting	O	U
Ed Jones	Edwin Jones Co., Inc.	Edwin Jones Co., Inc.	P	P
Bill Fehrmann	Electrol Engineering, Inc.	Electrol Engineering, Inc.	O	P
Greg Heinze	Electronic Theatre Controls, Inc.	Electronic Theatre Controls, Inc.	P	P
Adam Bennette	Electronic Theatre Controls Ltd.	Electronic Theatre Controls, Inc.	O	P
Ed Prasser	Electronic Theatre Controls, Inc.	Electronic Theatre Controls, Inc.	A	P
Steve Terry	Electronic Theatre Controls	Electronic Theatre Controls, Inc.	A	P
Tracy Underhill	Electronics Diversified Inc.	Electronics Diversified Inc.	P	P
Paul Bennett	Electronics Diversified Inc.	Electronics Diversified Inc.	O	P
Scott Rempel	Electronics Diversified Inc.	Electronics Diversified Inc.	A	P
Philip Nye	Engineering Arts	Engineering Arts	P	G
Paul K. Ericson	Ericson Lighting Design	Ericson Lighting Design	O	U
Robert Goddard	Goddard Design Co.	Goddard Design Co.	P	P
Dexter McNeil	Goddard Design Co.	Goddard Design Co.	A	P
Alan P. Symonds	Harvard College	Harvard University	O	U
Trevor Forrest	Helvar Lighting Control	Helvar Lighting Control	P	P
Bill Hewlett	Hewlett Electronics	Hewlett Electronics	O	P

Name	Company	Representing	Voting status	Int. cat.
Scott Blair	High End Systems Inc.	High End Systems Inc.	P	P
Steve Carlson	High Speed Design, Inc.	High Speed Design, Inc.	P	P
Peter Willis	Howard Eaton Lighting Ltd.	Howard Eaton Lighting Ltd.	P	P
Edwin S. Kramer	IATSE, Local 1	I.A.T.S.E. Local 1	P	U
John Huntington	IATSE Local 1	I.A.T.S.E. Local 1	A	U
Roger Lattin	IATSE Local 728	I.A.T.S.E. Local 728	P	U
Richard Thornton Brown	Zero 88 Ltd.	i Light Group PLC	P	P
Peter Brooks	Zero 88 Ltd.	i Light Group PLC	A	P
Rob Johnson	Interactive Technologies, Inc.	Interactive Technologies, Inc.	O	P
Larry Schoeneman	Interesting Products, Inc.	Interesting Products, Inc.	O	G
David Timmins	Jands Electronics	Jands Electronics	O	P
Edward Paget	Jones & Phillips Associates, Inc.	Jones & Phillips Associates, Inc.	P	G
John Mehlretter	Lehigh Electric Products Co.	Lehigh Electric Products Co.	O	P
Mark T. Kraft	Lehigh Electric Products Co.	Lehigh Electric Products Co.	O	P
Rick Leinen	NSI Corporation	Leviton Manufacturing Co., Inc.	P	P
Ken Vannice	NSI Corporation	Leviton Manufacturing Co., Inc.	A	P
Tim Bachman	Leviton / Colortran	Leviton Manufacturing Co., Inc.	A	P
Andrew Sherar	Lightmoves PLC	Lightmoves PLC	O	P
Gary Pritchard	LSC Lighting Systems PTY Ltd	LSC Lighting Systems PTY Ltd	O	P

Name	Company	Representing	Voting status	Int. cat.
J. P. Steiner	Lutron Electronics	Lutron Electronics	O	P
Jim Holladay	Luxence	Luxence	O	G
Ole Pedersen	Martin Professional A/S	Martin Professional A/S	P	P
Tracy Schwenk	Martin Professional Inc.	Martin Professional A/S	O	P
Martin Hjort	Martin Professional A/S	Martin Professional A/S	A	P
Hiroshi Kita	Marumo Electric Co., Ltd.	Marumo Electric Co., Ltd.	O	P
Geoffrey O. Thompson	IEEE 802.3 / Nortel Networks	Nortel Networks	O	G
David A. Boller	Organic Machines LLC	Organic Machines LLC	O	P
William Benner	Pangolin Laser Systems	Pangolin Laser Systems	O	P
Dave Higgins	Pathway Connectivity Inc.	Pathway Connectivity Inc.	P	P
Gary Douglas	Pathway Connectivity Inc.	Pathway Connectivity Inc.	A	P
Tim Cox	PLASA	PLASA	P	G
Tony Douglas-Beveridge	PLASA	PLASA	A	G
Mac Perkins	PNTA	PNTA Inc.	O	G
Robert Barbagallo	Proximo Inc.	Proximo Inc.	P	U
Paul F. Mardon	Pulsar Ltd.	Pulsar Ltd.	P	P
Steve Unwin	Pulsar Ltd.	Pulsar Ltd.	A	P
Stephen J. Tyrrell	Quantum Logic	Quantum Logic	O	P
Douglas Franz	QVC Network	QVC Network	O	U
Charlie Richmond	Richmond Sound Design Ltd.	Richmond Sound Design Ltd.	O	P
Jon R. Farley	Rosco/Entertainment Technology	Rosco Laboratories	P	P
Kenneth Mockler	Sceno Plus	Sceno Plus	O	U

Name	Company	Representing	Voting status	Int. cat.
Mick Martin	Showcad Control Systems	Showcad Control Systems	O	P
Andre Broucke	ADB - TTV Technologies	Siemens	O	P
George Kindler	SPL Integrated Solutions	Signal Perfection Ltd.	P	U
David George	Spectrum Manufacturing Inc.	Spectrum Manufacturing Inc.	P	P
Ujall Kar	Standard Robotics & Lighting	Standard Robotics & Lighting	O	G
John Mitchell	Sterling Technical Services	Sterling Technical Services	O	U
Richard Lawrence	Strand Lighting Ltd.	Strand Lighting Ltd.	P	P
Michael Lay	Strand Lighting	Strand Lighting Ltd.	A	P
Tad Trylski	Tad Trylski	Tad Trylski	O	U
Jerry Gorrell	Theatre Safety Programs	Theatre Safety Programs	P	G
Brian Dowd	TMB Associates (NJ)	TMB Associates	P	U
Colin Waters	TMB Associates	TMB Associates	O	U
Hans Leiter	Transtechnik GmbH	Transtechnik GmbH	O	P
Anders Ekvall	AVAB Scandinavia	Transtechnik GmbH	O	P
Mitch Hefter	Rosco/Entertainment Technology	USITT	P	U
Charles Reese	Vari-Lite, Inc.	Vari-Lite, Inc.	P	P
Alfred Langguth	Vari-Lite, Inc.	Vari-Lite, Inc.	A	P
Eckart Steffens	SOUNDLIGHT	VPLT	P	G
Ken Wagner	Walt Disney Imagineering	Walt Disney	O	U
Eric Cornwell	West Side Systems	West Side Systems	O	U
John Sondericker III	Wybron, Inc.	Wybron, Inc.	O	P

#### Voting Status

- P Principal voting representative for a company or organization
- A Alternate voting representative for a company or organization
- I Individual representing no organization other than himself or herself
- O Observer, non-voting

#### Interest Categories

- P Producer (manufacturer) of control devices or products
- U User of control devices or products
- G General interest in control devices or products