Minutes Technical Standards Committee

Wednesday, 14 March 2007 Hyatt Regency Phoenix Phoenix, AZ

Chairman: Mike Garl; James Thomas Engineering, Inc.; P

Recording secretary: Karl G. Ruling; ESTA

Members attending:

William Conner; Bill Conner Associates LLC, representing the Amer. Society of Theatre

Consultants; P

Eugene Leitermann; Theatre Projects Consultants, Inc., representing the Amer. Society of Theatre

Consultants; A

Larry Schoeneman; Designlab Chicago, Inc.; P Steve Terry; Electronic Theatre Controls, Inc.; P

Mitch Hefter; Entertainment Technology (Genlyte Group LLC); P

Edwin S. Kramer; I.A.T.S.E. Local 1; P

Ken Vannice; Colortran (Leviton Manufacturing Co., Inc.); P

Mike Wood; Mike Wood Consulting LLC; P David Johnson; Live Design (Penton Media); P

Matthew Griffiths; PLASA; P Ron Bonner; PLASA; A

Bill Groener; PRG Systems Integration Group (PRG); P

Mark Engel; Rosco Laboratories; P Bill Sapsis; Sapsis Rigging, Inc.; P

Rodney F. Kaiser; J.R. Clancy Inc., representing USITT; P

Lori Rubinstein; ESTA; ex officio

Visitors:

Roger L. Lattin, I.A.T.S.E. Local 728

Mike McMackin; Auerbach Pollock Friedlander

Jerry Gorrell; Theatre Safety Programs Tim Hansen; Oasis Stage Werks Kent Jorgensen; I.A.T.S.E. Local 80 Louis Bradfield; Bally's Las Vegas

Joseph Bocchiaro III, InfoComm International

1 Opening remarks

Mike Garl called the meeting to order at 13:07. He thanked people for making the trip and welcomed them to the warm weather. He asked people to turn off cell phones and beepers, or at least to make them silent.

2 Attendance and membership

2.1 Taking attendance

A blue attendance sign-in sheet was circulated.

Mike Garl announced that a quorum was present and business could be conducted. He also announced that Robin Crews had retired from service on the TSC and that Eugene Leitermann of Theatre Projects Consultants, Inc. is joining to replace Crews as the alternate representative for the American Society of Theatre Consultants. This announcement was greeted with applause for Leitermann.

TSC Minutes 14 March 2007 TSC/2007-0003

2.2 Welcome to visitors

The visitors were welcomed.

2.3 The consensus body

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

Name	Company or representation	Voting status		
William Conner	Bill Conner Associates LLC, representing the Amer. Society of Theatre Consultants	P		
Eugene Leitermann	Theatre Projects Consultants, Inc., representing the Amer. Society of Theatre Consultants	A		
Larry Schoeneman	Designlab Chicago, Inc.			
Steve Terry	Electronic Theatre Controls	Р		
Mitch Hefter	Entertainment Technology (Genlyte Group LLC)	Р		
Edwin S. Kramer	I.A.T.S.E. Local 1	Р		
Mike Garl	James Thomas Engineering, Inc.	Р		
Ken Vannice	Colortran (Leviton Manufacturing Co., Inc.)	Р		
Mike Wood	Mike Wood Consulting LLC	Р		
Matthew Griffiths	PLASA	Р		
Ron Bonner	PLASA	Α		
Bill Groener	PRG	Р		
David Johnson	Live Design (Penton Media)	Р		
Mark Engel	Rosco Laboratories	Р		
Bill Sapsis	Sapsis Rigging, Inc.	Р		
Rodney F. Kaiser	J.R. Clancy Inc., representing USITT	Р		
Jay O. Glerum	Jay O. Glerum & Associates, Inc., representing USITT	Α		
Florian von Hofen	VPLT	Р		
Eckart Steffens	SOUNDLIGHT, representing VPLT	Α		
_	Total votes possible	15		

3 Approval of minutes from the previous meeting

See TSC/2007-0001, file name TSCmin01-2007.pdf, Bill Conner's suggested correction in Conner01-2007MinutesCorrection.pdf, and Mitch Hefter's suggested correction in Hefter01-2007MinutesCorrection.pdf. The two suggested corrections were as follows:

Conner: What is reported in the first sentence of 8.3.5.4 in the draft minutes is not correct. Consider substituting:

"Conner reported the proposal to NFPA 101 and 5000 to reference 2007 NFPA 80 for Fire Safety Curtains was approved by the committee (working group) and unless comments to the contrary are submitted, it will likely be referenced in the next edition of each standard, 2009."

Hefter: I have one note as well. Delete the word "we" in the last sentence of 8.2.2.3.

"The CPWG needs to look at this and see if—we substantive revisions are needed to the standard."

Eddie Kramer moved that the minutes with the corrections from Conner and Hefter be accepted. The motion was seconded and then approved with a unanimous show of hands.

4 Call for patents

The following statement was read aloud to the assembly by Mike Garl:

"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 the Technical Standards Committee of the existence of a patent or copyright or other intellectual property that might protect material in a standard being developed by a working group. You need not be the holder of the patent or copyright to notify the Technical Standards Committee of its existence."

No protected intellectual property was brought to the attention of the assembly.

5 Anti-trust statement

The following statement was read aloud to the assembly by Mike Garl:

"The ESTA Board of Directors and the leadership of this Technical Standards Committee 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 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."

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

6 Approval of agenda

Mike Garl asked that we add a discussion of the proposal for a rope access standard under new business. Mike Wood moved that the agenda so amended be accepted. The motion was seconded and approved with a unanimous show of hands.

7 Reminder about ESTA committee contact information on the website

Garl asked people to notify the staff at the ESTA office if there are any changes or corrections needed.

8 Old business and standing reports

8.1 Financial reports

8.1.1 Treasurer's report

Mike Wood said we have a balanced budget by showing a substantial contribution from ESTA. A major expense at the beginning of the year is our insurance. Lori Rubinstein noted that ESTA's insurance coverage is now \$5 million. The TSP pays a prorated share of the insurance. The biggest shares go to the TSP and the ETCP, explained Mike Wood.

8.1.2 Status of contributions and pledges

Lori Rubinstein reported that we have received \$34,000 in donations and have invoiced another \$10,000. We have a VAT refund campaign in the works.

It was noted that any differences between Lori's report and Mike's report is caused by their slightly different time periods.

8.1.3 Accounting of TSP documents sold

Lori Rubinstein said we don't have ANSI's report for the quarter. Otherwise, the distributed report is complete.

8.2 Working group reports

8.2.1 Camera Cranes

8.2.1.1 BSR E1.12 camera crane standard

Kent Jorgensen reported that they had a successful meeting. Panavision had thought that the working group should abandon the project, since Panavision was going to write a document. After some discussion it was decided that what Panavision needs is what the working group will write, so Panavision's staff person assigned to the project will work with Kent Jorgensen to write a draft of the standard.

8.2.1.2 Crane operator's handbook

No news.

8.2.2 Control Protocols

8.2.2.1 ANSI E1.3-2001 (R2006), 0-10V analog control specification

No news, reported Steve Terry.

8.2.2.2 ANSI E1.11-2004 (DMX512-A)

Florian von Hofen was not present to give an update on the VPLT German/English translation project. No news, reported Steve Terry.

8.2.2.3 ANSI E1.11-2004 (DMX512-A) recommended practice

The project has made minor progress, reported Terry. Mitch Hefter reported he'd received more questions about the standard from people trying to understand it in China, which suggests that some clarification is needed.

8.2.2.4 ANSI E1.17-2006 (ACN)

Steve Terry reported on the Open ACN movement, headed up by Philip Nye.

8.2.2.5 ANSI E1.20-2006 (Remote Device Management)

No news, said Terry.

8.2.2.6 BSR E1.27-x (DMX512 cabling of various types)

8.2.2.6.1 ANSI E1.27-1-2006 (portable DMX512 cabling)

It's published. No news.

8.2.2.6.2 BSR E1.27-2 (permanent DMX512 cabling)

Mitch Hefter reported that a set of proposed resolutions and a revised standard have been sent to the working group for it to consider.

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

Work continues, reported Terry.

8.2.2.8 BSR E1.31, Lightweight streaming protocol for transport of DMX512 using ACN Terry reported that the public review ends at the end of the day Monday, 19 March.

8.2.2.9 BSR E1.33 project to support RDM over ACN

Work continues, reported Terry.

8.2.2.10 BSR E1.37—Additional Message Sets for ANSI E1.20, Remote Device Management Work continues, reported Terry.

8.2.3 Electrical Power

8.2.3.1 ANSI E1.16-2002, Configuration Standard for Metal Halide Ballast Power Cable

Eddie Kramer moved that the existing document be offered for public review for reaffirmation. The motion was seconded, and then approved by a roll call ballot with all present voting in favor.

		Voting			
Name	Company or representation	status	Yes	No	Abstain
William Conner	Bill Conner Associates LLC, representing ASTC	Р	Χ		
Eugene Leitermann	Theatre Projects Consultants, Inc., representing ASTC	Α			
Larry Schoeneman	Designlab Chicago, Inc.	Р	X		
Steve Terry	Electronic Theatre Controls	Р	Χ		
Mitch Hefter	Entertainment Technology (Genlyte Group LLC)	Р	Χ		
Edwin S. Kramer	I.A.T.S.E. Local 1	Р	Χ		
Mike Garl	James Thomas Engineering, Inc.	Р	Χ		
Ken Vannice	Colortran (Leviton Manufacturing Co., Inc.)	Р	Χ		
Mike Wood	Mike Wood Consulting LLC	Р	Χ		
Matthew Griffiths	PLASA	Р	Χ		
Ron Bonner	PLASA	Α			
Bill Groener	PRG	Р	Χ		
David Johnson	Live Design (Penton Media)	Р	Χ		
Mark Engel	Rosco Laboratories	Р	Χ		
Bill Sapsis	Sapsis Rigging, Inc.	Р	Χ		
Rodney F. Kaiser	J.R. Clancy Inc., representing USITT	Р	Χ		
Jay O. Glerum	Jay O. Glerum & Associates, Inc., representing USITT	Α			
Florian von Hofen	VPLT	Р			
Eckart Steffens	SOUNDLIGHT, representing VPLT	Α			
	Total votes	15	14	0	0

8.2.3.2 BSR E1.18, Recommended practice for selection, installation, and use of portable feeder cable

Ken Vannice reported that the group is making progress on resolving the public review comments. A block of definitions comments is being held for later. The timeline decided by the working group is:

- 1) Comment resolutions ready for the July meetings
- 2) Working group reads them and raises any issues or problems at the July meeting.
- 3) Revised standard ready to be sent to the working group at the end of September.
- 4) The working group will consider votes on accepting the comment resolutions and a motion to offer the revised draft standard for public review at the November meeting.

8.2.3.3 BSR E1.19, Recommended practice for use of Class A GFCIs

Ken Vannice reported that a supermajority of the Electrical Power Working Group voted by letter ballot to offer BSR E1.19 for a third public review. The two sets of comments offered on the letter ballot will be handled as public review comments.

Eddie Kramer moved that the document be offered for public review. The motion was seconded. The question will be decided by letter ballot.

8.2.3.4 ANSI E1.24-2006, pin connector intermatability standard

Karl Ruling reported that a UL staff person had requested copies of the graphics used in E1.24.

8.2.3.5 BSR E1.32, luminaire maintenance guidance

Ken Vannice reported that a supermajority of the Electrical Power Working Group voted by letter ballot to offer BSR E1.32 for a first public review. The two sets of comments and the reason offered on the letter ballot will be handled as public review comments.

Rod Kaiser moved that the document be offered for public review. The motion was seconded. The question will be decided by letter ballot.

8.2.4 Floors

8.2.4.1 ANSI E1.26-2006, floor energy absorption

Tim Hansen reported that there was no news.

8.2.4.2 BSR E1.34-200x, Entertainment Technology-Measuring and Specifying the Slipperiness of Floors Used in Live Performance Venues

Tim Hansen reported that the working group will experiment with drag sleds at its next meeting.

8.2.5 Fog and Smoke

8.2.5.1 ANSI E1.5-2003, glycol and glycerin fog exposure standard

No action at this time and none is needed yet, reported Larry Schoeneman.

8.2.5.2 ANSI E1.14-2001, Recommendations for Inclusions in Fog Equipment Manuals, reaffirmation

Ruling reported that the standard had been reaffirmed, so it is now ANSI E1.14 - 2001 (R2007).

8.2.5.3 ANSI E1.23-2006, general fog effect planning standard

No news.

8.2.5.4 BSR E1.29, fog equipment product safety standard

Larry Schoeneman reported that this project is moving along with the working group meeting as a task group to work on it.

8.2.6 Followspot Position

Karl Ruling reported that the group is moving very slowly on the BSR E1.28, followspot position planning guidance document. It repeated gets caught in discussions of types of followspot positions.

Some members of the TSC expressed concern that it has now been three years since the BSR E1.28 project was announced to ANSI, but there is still no document ready for public review.

8.2.7 Photometrics 15:25

8.2.7.1 ANSI E1.25-2006, flat-wall photometry basic conditions

Jerry Gorrell reported no news.

8.2.7.2 ANSI E1.9-2001, reporting photometric data revision

Ruling reported that the revised version had been submitted to ANSI and approved on March 7. It is now ANSI E1.9-2007

8.2.7.3 BSR E1.35, Lens Quality Measurements for Pattern Projecting Luminaires Intended for Entertainment Use

The public review ran until the end of the day on Monday, 12 March. One person, Heidi Hyldahl of Martin Professional, sent in some comments. Jerry Gorrell and Mike Wood explained the project, which is to come up with a number or two that can be used to describe how well an ERS projects a gobo.

8.2.7.4 BSR E1.36, Model Procedure for Permitting the Use of Tungsten-Halogen Incandescent Lamps and Stage and Studio Luminaires in Vendor Exhibit Booths in Convention and Trade Show Exhibition Halls

The public review ran until the end of the day on Monday, 12 March. One person, Mark Ravenhill of Martin Professional, sent in some comments. Jerry Gorrell and Mike Wood explained the project.

8.2.8 Rigging

8.2.8.1 ANSI E1.1-2006, wire rope ladders revision

Bill Sapsis reported no news.

8.2.8.2 ANSI E1.2-2006, aluminum towers and trusses revision

No news.

8.2.8.3 BSR E1.4, manual rigging systems

Bill Sapsis reported that creating a first draft to resolve issues raised by the James L. Read, Jr. letter had been assigned to a task group, and the Rigging Working Group would hear about the task group's progress this evening [March 14].

8.2.8.4 BSR E1.6-1, powered winch hoist systems

The last public review ran from 10 November 2006 through the end of the day UTC 25 December 2006. Ruling reported that the task group is working on a set of proposed resolutions for the working group to consider.

8.2.8.5 BSR E1.6-2, powered serially produced chain hoist systems

The last public review ran until the end of the day 19 February 2007. Ruling reported that the task group is working on a set of proposed resolutions for the working group to consider. Only a few people commented.

8.2.8.6 BSR E1.6-3, Safe Use of Serial Manufactured Electric Chain Hoists in the Entertainment Industry

Karl Ruling reported that work is being done on this project, which, despite its low number, is quite new. The safe use of chain hoists turns out to be quite complicated, and not simply a matter of suitable design factors and redundancy, but also a matter of control systems. He described some demonstrations done by Eilon Engineering Industrial Weighing Systems in Tel Aviv, and witnessed by Bill Sapsis, that showed that gross imbalances of weight distribution can happen when multiple hoists are used to pick up a load. It's virtually impossible to avoid these imbalances when lifting a load without automated force or position monitoring.

8.2.8.7 ANSI E1.8-2005, speaker enclosures for rigging standard

No news.

8.2.8.8 ANSI E1.15-2006, boom & base assemblies

No news.

8.2.6.9 ANSI E1.21-2006, portable roof systems

No news.

8.2.6.10 BSR E1.22, fire safety curtain systems

The last public review ran until the end of the day Monday, 12 March. Karl Ruling said he'd zipped all the comments to together and sent them off to Harvey Sweet, the task group leader, so the task group could get started on drafting proposed resolutions. Eight people commented and there were not too many comments.

8.3 Reports on liaisons and news from other industry groups

8.3.1 InfoComm

Lori Rubinstein introduced Joseph Bocchiaro III, the new standards manager for InfoComm. He briefly described his group's work, which is focusing on measuring the performance of audio visual systems. They plan to be an ANSI accredited organization. Rubinstein and Bocchiaro said that our organizations are working to keep open communication so that we do not develop overlapping or conflicting projects.

8.3.2 ASTC

8.3.2.1 Report of ASTC meeting

Steve Terry reported that he had made a presentation at the ASTC general meeting and described the TSP and its structure. Then had a lively, open discussion about ASTC's interests in some of our projects. Terry said we need to look at how we develop standards that affect systems that go into buildings and other permanent structures. In general, they had a positive dialog.

8.3.2.2 Other ASTC news

None.

8.3.3 CANENA

Ken Vannice reported that they are still doing web meetings and have been circulating drawings with maximum and minimum dimension. Vannice said that the brass dimensions were set and that the rubber dimensions were the issue, but at the EPWG meeting Jeff deRecat had said that Crouse Hinds had changed the female dimensions on their product, so the brass dimensions are not set after all.

Eddie Kramer suggested that we take the CANENA report off the agenda. There was some discussion. The consensus was that it should stay simply as a red flag item. We don't need to know the details of what CANENA is doing; we only need to know if there is something that would negatively affect our constituents.

8.3.4 ETCP

Lori Rubinstein reported that on February 15 the electrical exam became available at remote testing centers. The ETCP is shifting its efforts toward marketing the program to employers and venues. We are working to get discounts from insurance companies if certified technicians are employed.

Rod Kaiser said that he is getting queries from architects about the certification program.

There was a discussion of the cost of the exam. Terry suggested that if the price were lower, more would take the exam. Rubinstein said that the retake fee has been lowered. Sapsis said that we just need to be patient. A critical mass is being developed. It will catch on, he thinks, and then the cost will not be a big factor dissuading people from taking the exam. The ETCP does need money, at least enough to break even, to run.

8.3.5 ICC

Jerry Gorrell reported that March 24 is the deadline for Code Change proposals.

8.3.6 NFPA

8.3.6.1 NFPA 101 (Life Safety Code) and 5000 (building code)

There was a discussion of the recent Tentative Interim Amendments to NFPA 101 and NFPA 5000 that provide explanations in the informative annexes for why voice announcement system that are part of an alarm system are not required in public assembly occupancies, such as theatres, that have reliable public address sound systems. Ruling broadly described the TIAs, and Conner added details and corrections.

8.3.6.2 NFPA 1126 (proximate pyro) and 160 (flame effects)

No news.

8.3.6.3 NFPA 70 (NEC)

The Report On Comments is scheduled to be available next week, reported Mitch Hefter.

Eddie Kramer said that he had said he'd be at the annual meeting, but the meeting is going to be during Tony week, so he can't go.

8.3.6.4 NFPA 80

No news.

8.3.7 PLASA

Ron Bonner reported that Ofcom will auction the TV spectrum in the UK. The live entertainment audio industry will probably lose out on a winner-take-all auction. He described the problem, which is that radio mics also use the spectrum now used by analog television. Television is scheduled to become digital and to move to another part of the RF spectrum, but there is no plan for the other devices that use the current part of the spectrum. The auction of the spectrum is essentially a move to privatize it, to trade it like any other property, with the winner of the auction able to do whatever

with the spectrum purchased. That "whatever" is unlikely to include allowing space for wireless microphones. There is talk about digital transmitters being able to solve the problem by finding clear frequencies and seamlessly adapting to them, but such technology does not exist and is not likely to exist before the auction. Bonner and PLASA have been working to alert the UK government to the problem and to make them aware of the cost to society if wireless microphones are made unusable.

Bonner reported that an RDM Plugfest was held in London to test the interoperability of RDM devices. Peter Willis helped organize the event. Bonner said he planned to offer a fuller report at the CPWG meeting. Bob Goddard and Doug Fleenor entered equipment.

8.3.8 SAE/FAA

Jerry Gorrell reported on the bright lights committee meeting February 8 in Melbourne, Florida. He said they have enough data, but they keep proposing more research and aren't sitting down and writing the document. "A lot of stirring the pot, but not a lot of cooking." The next meeting is scheduled for the second week of August in San Diego.

8.3.9 UL

No news.

8.3.10USITT

Rod Kaiser welcomed us to the USITT Conference and Stage Expo.

8.3.11 VPLT

No report. No one here.

8.3.12Other liaisons

None.

8.4 Review of action items from last meeting not covered above

Lori Rubinstein said the ESTA Board will vote on the P&P revision tomorrow night [March 15].

9 New Business

There was a discussion of the rope access standard and certification proposal, submitted by Rigging Technologies. Bonner said that IRATA (International Rope Access Trade Association) exists in the UK, and it has a set of standards or recommended practices and a certification program.

Steve Terry moved that we send a letter thanking them for their interest but that the proposal is not consistent with the work of the Technical Standards Program. The motion was seconded. The motion was approved by a majority of 12 out of a total voting body of 15 (14 present) with a show of hands. Eddie Kramer voted No, Mitch Hefter voted Abstain, and the rest voted Yes. Ruling was directed to send the thanks-but-no-thanks letter.

10 Other business

10.1 OSHA revamps the electrical systems standard

Ken Vannice reported that the OSHA general industry electrical installation standard (29 CFR Part 1910 Subpart S) has been updated. Jerry Gorrell said that they seem to have picked and chosen what they like from the 2000 edition of NFPA 70E and the 2002 edition of NFPA 70, so it is roughly consistent with these two obsolete documents, but not entirely consistent.

10.2 LDI seminar program content

Bill Groener explained that LDI is interested in developing seminar content as part of our contract with them sponsoring LDI. We need to develop 10 programs. Please start thinking about them now.

Mike Wood suggested that every working group has some sort of standard or project that would make a good visual demonstration.

Lori Rubinstein said the first point of contact for ideas should be Karl Ruling. Then he can coordinate with Ellen Lampert-Greaux.

10.3 NETEAC

Bill Sapsis announced his North American Theatre Engineering and Architecture Conference. It is set for July 20 and 21, 2008 in New York City. The Schimmel Center at Pace University is the venue being considered. Rubinstein said we are working on having the TSP meetings happen at the same time. July 20 and 21are a Sunday and a Monday, so the meeting schedule and the conference should fit well together. More information is available at http://NATEAC.org.

11 Schedule for future meetings

The next meeting was announced as being scheduled for 13:00 to 17:00, on Friday, 13 July 2007, at the Dallas/Ft. Worth Airport Marriott South in Ft. Worth, TX.

12 Adjournment

Sapsis moved that the meeting adjourn. The motion was seconded. Hearing no objections, Mike Garl declared the meeting adjourned at 15:46.

TSC Minutes 14 March 2007 TSC/2007-0003

TSC Membership and Contact Information as of 30 May 2007

Name	Company	Representing	Voting status
William Conner	Bill Conner Associates LLC	Amer. Society of Theatre Consultants	Р
Eugene Leitermann	Theatre Projects Consultants, Inc.	Amer. Society of Theatre Consultants	Α
Larry Schoeneman	Designlab Chicago, Inc.		Р
Steve Terry	Electronic Theatre Controls		Р
Mitch Hefter	Entertainment Technology (Genlyte Group LLC)		Р
Edwin S. Kramer	I.A.T.S.E. Local 1		Р
Mike Garl	James Thomas Engineering, Inc.		Р
Ken Vannice	Colortran (Leviton Manufacturing Co., Inc.)		Р
Mike Wood	Mike Wood Consulting LLC		Р
David Johnson	Live Design (Penton Media)		Р
Matthew Griffiths	PLASA	PLASA	Р
Ron Bonner	PLASA	PLASA	Α
Bill Groener	PRG Systems Integration Group (PRG)		Р
Mark Engel	Rosco Laboratories		Р
Bill Sapsis	Sapsis Rigging, Inc.		Р
Rodney F. Kaiser	J.R. Clancy Inc.	USITT	Р
Jay O. Glerum	Jay O. Glerum & Associates, Inc.	USITT	Α
Florian von Hofen	VPLT	VPLT	Р
Eckart Steffens	SOUNDLIGHT	VPLT	Α