Accredited Standards Committee*

National Committee for Information Technology Standards (NCITS)

Doc. No.: T10/98-148r1 **Date:** May 18, 1998

Reply to: John Lohmeyer

To: T10 Membership

From: Ralph Weber / John Lohmeyer

Subject: T10 Plenary Meeting #26 -- May 7, 1998

Colorado Springs, CO

Agenda

- 1. Opening Remarks
- 2. Approval of Agenda
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- 4. Approval of Minutes March '98 Meeting San Diego, CA (T10/98-127r1)
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 - 8.1 Project Status Summary and NCITS/OMC Liaison [Lohmeyer]
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 - 8.3 SCSI Common Access Method 3 (CAM-3) Status {Project 990-D} [Dallas]
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 - 8.8 SCSI Parallel Interface 2 (SPI-2) {Project 1142-D} [Ham/Penokie]
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 - 8.10 SCSI Fibre Channel Protocol 2 (FCP-2) {Project 1144-D} [Snively]
 - 8.11 Serial Bus Protocol 2 (SBP-2) {Project 1155-D} [Johansson]
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 - 8.13 SCSI-3 Enclosure Commands (SES) {Project 1212-D} [Snively]
 - 8.14 High Availability Profile (HAP) Technical Report (Project 1224-DT) [Hagerman]
 - 8.15 SCSI Controller Commands 2 (SCC-2) {Project 1225-D} [Penokie]
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 - 8.17 SCSI Primary Commands 2 (SPC-2) Status {Project 1236-D} [Weber]
 - 8.18 Reduced Block Commands (RBC) {Project 1240-D} [Bryan]
 - 8.19 SCSI Socket/SSL Services Command Set (SSS) {Project 1246-D} [Parker]
 - 8.20 SCSI Parallel Interface 3 (SPI-3) {Project 1302-D} [Penokie]
 - 8.21 SCSI Enclosure Profile (SEP) Technical Report {Project 1303-DT} [Weber]
- 9. Old Business
 - 9.1 Resolution of SBP-2 Letter Ballot Comments [Johansson]
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 - 9.3 SCSI-2 Revision [Milligan]
- 10. New Business
 - 10.1 Project Proposal for Isochronous Serial Bus Protocol (ISP) (98-137r0) [Finch]
 - 10.2 Actions on Working Group Recommendations

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1250 Eve Street NW. Suite 200. Washington. DC 20005-3922

- 10.2.1 Add PLPB feature to mode page 19h (98-106r1) [Houlder]
- 10.2.2 Making the Terminate Task Management Function Obsolete [Snively]
- 10.2.3 New Log Page Requirements (98-128r2) [Snively]
- 10.2.4 Persistent Reservations clarifications for SPC-2 (98-124r2) [Snively]
- 10.3 Making Extent Reservations Obsolete [Snively]
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- 15. Adjournment

Results of Meeting

1. Opening Remarks

John Lohmeyer, the T10 Chair, called the meeting to order at 9:00 a.m., Thursday May 7, 1998. He thanked Symbios for hosting the meeting.

John said that NCITS Subgroup Membership forms and the T10 Mailing Subscription form were available on the document table. He said that people should use the NCITS forms to insure the NCITS Secretariat has the latest membership information. These forms should be mailed directly to the NCITS Secretariat.

As is customary, the people attending introduced themselves and a copy of the attendance list was circulated. Copies of the draft agenda and general information on T10 were made available to those attending.

2. Approval of Agenda

The draft agenda was approved with the following additions/changes:

- 10.2.1 Add PLPB feature to mode page 19h (98-106r1) [Houlder]
- 10.2.2 Making the Terminate Task Management Function Obsolete [Snively]
- 10.2.3 New Log Page Requirements (98-128r2) [Snively]
- 10.2.4 Persistent Reservations clarifications for SPC-2 (98-124r2) [Snivelv]
- 10.3 Making Extent Reservations Obsolete [Snively]
- 10.4 Making the Change Definition Command Obsolete [Snively]

The following agenda items were added or revised during the course of the meeting:

11.2.1 Instructions to ISO/IEC JTC 1/SC 25/WG 4 Delegation [Milligan]

3. Attendance and Membership

The membership requirements were reviewed. NCITS rules permit one vote per organization. An individual from a new organization must attend two out of three consecutive plenary meetings. He/she may apply for voting membership the second meeting via a letter to the Chair of T10. The individual may vote at the second plenary meeting. Working group meetings do not count toward attendance requirements.

Organizations must also pay the NCITS Service Fee (\$300) to maintain membership. The ANSI International Program Fee (also \$300) is billed at the same time. Alternatively, organizations may join T10 with the experimental Organizational Membership; this membership option costs \$2500 and includes one principal member, any number of alternates, and either two CD-ROM mailings or one CD Access mailing.

John briefly discussed the mailing fees. Complete pricing information is contained in the 1998 membership form (available at ftp://ftp.symbios.com/t10/pub/standards/io/t10/mem_form.txt).

The Chair said he had sent letters to 7 people from 4 organizations informing them that their membership was in jeopardy due to non-attendance (see 98-003r0) and that their membership would be terminated if they did not attend this meeting. The following organizations were in attendance jeopardy:

Ancot Corp.
Distributed Processing Technology
FSI Consulting Services
SyQuest Technology, Inc.

All of the organizations were present except:

FSI Consulting Services

They were terminated due to lack of attendance (i.e., the principal member was changed to observer status and the first alternate member, if any, was dropped; additional alternates, if any, were changed to observers).

No organizations requested new membership at this meeting.

The T10 membership during the meeting was 51 organizations down from 52 organizations last time. Enclosure (1) is the list of the people present at the meeting and enclosure (2) is the current T10 membership list.

4. Approval of Minutes - March '98 Meeting San Diego, CA (T10/98-127r1)

The minutes were approved as written.

5. Document Distribution

Members who have any problems with their mailing subscription should deal directly with Judy Gales (jgales@itic.nw.dc.us) (202) 626-5741.

John reminded the committee that George Penokie has assumed the position of vice-chair, replacing Larry Lamers, who resigned at the last meeting. However, John will take over the tasks of assigning document numbers and preparing mailings. John asked the committee members to request document numbers from himself. The process of producing mailings and maintaining web sites was discussed.

John Lohmeyer requested that all documents for the next mailing be in his hands in electronic format by 10:30 a.m. on Thursday May 14, 1998. Documents received after this time will go into a subsequent mailing.

John reminded the committee of the requirements for document submission. Since T10 meets its document retention requirements by preparing mailings, documents included in the mailing must be suitable for archiving. This means that native-format and/or Portable Document Format (PDF) electronic originals with proper identification must be submitted.

The electronic copies can be sent directly to John by e-mail (at lohmeyer@ix.netcom.com), placed on the SCSI BBS (719-533-7950), or they can be transferred by ftp protocol to ftp.symbios.com and placed in the /pub/standards/io/incoming directory. In the latter two cases, please also send an e-mail to John informing him of the file name and location of the file.

As usual, minutes are also available on the SCSI BBS (719-533-7950), the T10 World Wide Web page (see below), and will be distributed to the T10 Reflector.

To be added to the T10 Reflector, send an e-mail to majordomo@symbios.com with the line 'subscribe t10' in the message body. The NCITS Secretariat maintains a World Wide Web page at http://www.ncits.org/. Symbios maintains a World Wide Web page on behalf of T10 at http://www.symbios.com/t10/.

The current document register is enclosure (3). The T10 document register is also available on the SCSI BBS in file DR.TXT and at ftp://ftp.symbios.com/pub/standards/io/t10/dr.txt.

John Lohmeyer noted and Dal Allan concurred that the copyright notice appearing on the T10 mailing CD label does not apply to the drafts and documents contained thereon. Dal reported that a more appropriate notice will appear on the next T10 mailing CD label and that the copyright electronic information on the CD is already correct.

6. Call for Patents

This is a regular agenda item to identify any potential patent issues with developing standards.

A document is available from ANSI, "Procedures for the Development and Coordination of American National Standards", at no charge. This document is also on the WWW at http://www.ncits.org/help/ansi_sdo.html. Section 1.2.11 contains the ANSI patent policy. Amy Marasco manages patent issues for ANSI and can be contacted at amarasco@ansi.org or 212-642-4954.

John reported that he had verified the above information, as requested during the last meeting.

7. Review of Old Action Items

- 261) John Lohmeyer will verify the ANSI patent policy URL shown in the committee minutes. Complete.
- 262) John Lohmeyer will forward the T10 file retention policy to NCITS for approval. *Complete*.
- 263) Gene Milligan will report on how handle the normative reference to ESDI in SCSI-2. Overtaken by events
- John Lohmeyer will forward SPI-2 revision 20 to NCITS for further processing towards first public review. Complete. (Due to an editorial problem revision 20a was forwarded.)

8. Project Status Reports

8.1 Project Status Summary and NCITS/OMC Liaison [Lohmeyer]

John Lohmeyer said that the current T10 project status summary was included in the T10 Information Packages and will be included in the mailing as usual.

NCITS is in the process of updating their web site format. They will be needing short abstracts for all active projects. Gene Milligan reported that a specific form must be used to provide the project abstract. John Lohmeyer took an action item provide the project abstract form to all project editors. John asked all project editors to send the completed project abstract forms to him.

8.2 SPI Amendment (SPIAmnd) {Project 0855-D} [Johansson/Lamers]

John Lohmeyer reported that the SPI Amendment is at BSR and should finish processing for publication soon.

8.3 SCSI Common Access Method - 3 (CAM-3) Status {Project 990-D} [Dallas]

In the absence of Bill Dallas, no report was made.

8.4 SCSI-3 Block Commands (SBC) Status (Project 996-D) [Milligan]

Gene Milligan reported that he has not received a review copy of SBC. John asked Gene Milligan to watch for a review copy of SBC and noted that ANSI should be contacted if a review copy does not arrive soon.

8.5 SCSI-3 Stream Commands (SSC) Status {Project 997-D} [Stephens]

The problems completing the public review version of SSC revision were discussed. Gene Milligan moved that T10 cancel the SSC project unless a technical editor is identified by the July Plenary meeting. Bob Snively seconded the motion. After a brief discussion, Gene Milligan moved to table the motion. Peter Johanssan seconded the motion to table. The motion to table passed unanimously.

8.6 SCSI-3 Medium Changer Commands (SMC) Status {Project 999-D} [Oetting]

Erich Oetting reported that SMC is almost published. He noted that minor glitches have been found in table listing the commands applicable to SMC devices. Since SMC is almost published, no action was taken.

8.7 Multimedia Command Set (MMC) Status (Project 1048-D) [Roberts]

John Lohmeyer reported that MMC is in publication phase.

8.8 SCSI Parallel Interface - 2 (SPI-2) {Project 1142-D} [Ham/Penokie]

John Lohmeyer reported that the public review of SPI-2 closes July 7, 1998.

8.9 SCSI Enhanced Parallel Interface (EPI) Technical Report (Project 1143-D) [Ham]

John Lohmeyer reported that EPI revision 14 was reviewed in the working group (minutes in 98-147). An editor's meeting has been scheduled for June 12, 1998. John is making arrangements for the meeting room and teleconference access.

8.10 SCSI Fibre Channel Protocol - 2 (FCP-2) {Project 1144-D} [Snively]

Bob Snively reported that he is accumulating lists of proposed and approved changes for FCP-2. He reported that making the list is his only current activity.

8.11 Serial Bus Protocol - 2 (SBP-2) {Project 1155-D} [Johansson]

Peter Johansson made an oral report to the committee and provided the following electronic report for the minutes.

Since the March T10 plenary in San Diego, CA, the SBP-2 ad hoc working group has met once, May 6, 1998 in Colorado Springs, CO (minutes in 98-168). Most of the meeting was devoted to remaining SBP-2 letter ballot comment resolution, with the following results:

- In resolution of comments submitted during the T10 letter ballot, the CLEAR TASK SET and TERMINATE
 TASK functions have been removed and the definition of the q bit in the Logical_Unit_Number entry has been
 deleted.
- The removal of the isochronous portions of SBP-2 (approved by the T10 plenary in November) was reviewed for accuracy.
- The recommendations of T10/98-121r2, which permit a target to retain target resources for more than one second after a bus reset, have been incorporated. The working group considers this a timely modification to SBP-2 since it extends the usefulness of the protocol to a larger class of devices and has no impact on existing implementations.
- A review of SBP-2 Draft 3d revealed minor editorial improvements.

As a consequence of these action, the working group recommends, by a vote of 13:0, to the T10 plenary that SBP-2 Draft 4 be forwarded to NCITS for further processing (public review). With this action, comments received during the letter ballot of SBP-2 are fully resolved.

In addition to the above, the working group discussed a project proposal for isochronous extensions to SBP-2. There was consensus that it is at present premature to act upon this project proposal and the working group recommends to the plenary that it be deleted from the plenary agenda.

No future meetings of the SBP-2 ad hoc working group are planned. The need for such meetings, if any, will be addressed upon completion of the NCITS public review period.

8.12 SCSI Architecture Model - 2 (SAM-2) {Project 1157-D} [Weber]

Ralph Weber reported that two revisions of SAM-2 have been prepared since the last meeting. Editorial issues for SAM-2 were discussed and resolved at the working group meeting (minutes in 98-147). Revision 6, containing all the changes agreed at the working group meeting will be prepared in time for the mailing. Revision 7 will be prepared in time for the July meeting and will have all the object notation replaced by equivalent English text.

8.13 SCSI-3 Enclosure Commands (SES) {Project 1212-D} [Snively]

John Lohmeyer reported that SES should go to ANSI BSR within the next few weeks.

8.14 High Availability Profile (HAP) Technical Report (Project 1224-DT) [Hagerman]

Doug Hagerman reported that no progress has been made on HAP.

8.15 SCSI Controller Commands - 2 (SCC-2) {Project 1225-D} [Penokie]

John Lohmeyer reported that the NCITS letter ballot on forwarding SCC-2 closes on June 2, 1998.

8.16 Multimedia Command Set - 2 (MMC-2) Status (Project 1228-D) [Roberts]

Ron Roberts reported that hacking continues on MMC-2, putting the Mt. Fuji documents in MMC-2.

Ron announced the following document revision schedule. Revision 6a to the FTP site by May 15, 1998. Revision 7 by June 9, 1998. Revision 8 to plenary for letter ballot in September.

Ron reported that the meeting schedule for the MMC-2 working group is:

- June 9 and 10, 1998 in Tustin, CA (near Irvine) hosted by SSI
- No meeting in July
- August 4 and 5, 1998 in Longomont, CO hosted by Philips
- September 15 and 16 in St. Petersburg, FL.

8.17 SCSI Primary Commands - 2 (SPC-2) Status (Project 1236-D) [Weber]

Ralph Weber reported that all known approved proposals have been incorporated in SPC-2 revision 2.

Ralph Weber moved that type code 0Fh be assigned in SPC-2 to ISO/IEC 14776-381 "SCSI Specification for Optical Card Reader/Writer". Gene Milligan second the motion. The motion passed unanimously.

8.18 Reduced Block Commands (RBC) {Project 1240-D} [Bryan]

Pete McLean reported on the activities of the RBC working group meeting (minutes in 98-167). He stated that the meeting concluded with no outstanding technical issues. He informed the committee that forwarding activities for RBC will begin in July or September.

8.19 SCSI Socket/SSL Services Command Set (SSS) {Project 1246-D} [Parker]

In the absence of Keith Parker, no report was made.

8.20 SCSI Parallel Interface - 3 (SPI-3) {Project 1302-D} [Penokie]

George Penokie reported on the activities of the SPI-3 working group (minutes in 98-146). He noted that no draft revision of SPI-3 has been created yet, and he is waiting for a critical mass of approved changes. George noted that two working groups have been proposed for May 22, 1998 and June 19, 1998.

Gene Milligan moved that the chair be instructed to notify the T10 Reflector that T10 is planning to remove all HVD discussion from SPI-3. John Lohmeyer seconded the motion. The motion passed unanimously. John Lohmeyer took action item to notify the T10 Reflector that T10 is planning to remove all HVD support from SPI-3.

8.21 SCSI Enclosure Profile (SEP) Technical Report {Project 1303-DT} [Weber]

Ralph Weber reported no activity on this project.

9. Old Business

9.1 Resolution of SBP-2 Letter Ballot Comments [Johansson]

Based on the unanimous working group recommendation, Peter Johansson moved that T10 forward SBP-2 revision 4 to NCITS for further processing for first public review, and that SBP-2 revision 4 be accepted as resolving the letter ballot comments. Steve Finch seconded the motion. The motion passed 30:0:0:21=51. Based on the successful resolution of his letter ballot comments, Steve Finch asked that his negative letter ballot vote be changed to an affirmative vote.

Peter Johansson took an action item to prepare SBP-2 revision 4 for public review. John Lohmeyer took an action item to forward SBP-2 revision 4 to NCITS for processing toward first public review.

9.2 Recommendation that ESDI (X3.170 and X3.170a) be withdrawn [Milligan]

John reported on the motion deferred from the March meeting:

"Gene Milligan moved that X3.170 and X3.170a be withdrawn. Erich Oetting seconded the motion. Gene Milligan moved that consideration be deferred to the May meeting. Larry Lamers seconded the motion to defer. The motion to defer passed 32:3:0:17=52."

Yes No Abs NP

Gene Milligan noted that no implementations he is aware of use the ESDI synchronize spindle referenced by SCSI-2. So, the issue of a SCSI-2 reference to a withdrawn standard should be considered moot.

The motion passed on a roll-call vote of 34:0:0:17=51.

The details of the roll call vote were as follows:

Organization

Organization	Naiii	e	res	NO ADS NP
Adaptec, Inc.	Mr.	Lawrence J. Lamer	1	
AMP, Inc.	Mr.	Scott Lindstrom	1	
Amphenol Interconnect				1
Ancot Corp.	Mr.	Bart Raudebaugh	1	
Apple Computer	Mr.	Ron Roberts	1	
Berg Electronics	Mr.	Douglas Wagner	1	
Cable Design Technologies				1
Ciprico Inc.				1
Circuit Assembly Corp.				1
Compaq Computer Corp.	Mr.	Robert C. Elliott	1	
Congruent Software, Inc.	Mr.	Peter Johansson	1	
Dallas Semiconductor				1
Data General / Clariion	Mr.	Greg McSorley	1	
Digital Equipment Corp.	Mr.	Douglas Hagerman	1	
Diogenes SCSI				1
Distributed Processing Tech.	Mr.	Roger Cummings	1	
Eastman Kodak Co.	Mr.	Keith Freeberg	1	
ENDL	Mr.	I. Dal Allan	1	
Exabyte Corp.	Mr.	Tom Jackson	1	
Fujitsu (FCPA)	Mr.	Don Vohar	1	
Harting, Inc. of N. America			1	
Hewlett Packard Co.	Mr.	J. R. Sims	1	
Hitachi Cable Manchester, Inc				1
Hitachi Storage Products				1
Honda Connectors				1
IBM Corp.				1

Name

Iomega Corp.	Mr.	Tim Bradshaw	1			
KnowledgeTek, Inc.						1
Linfinity Micro	Mr.	Dean Wallace	1			
LSI Logic Corp.	Mr.	Alan Littlewood	1			
Madison Cable Corp.						1
Maxtor Corp.	Mr.	Pete McLean	1			
Methode Electronics, Inc.						1
Molex Inc.						1
Mylex Corp.						1
Ophidian Designs	Mr.	Edward A. Gardner	1			
Philips Electronics	Mr.	William P. McFerr	1			
QLogic Corp.	Mr.	Skip Jones	1			
Quantum Corp.	Mr.	Mark Evans	1			
Seagate Technology	Mr.	Gene Milligan	1			
Silicon Systems, Inc.	Mr.	Dave Guss	1			
Sony Electronics, Inc.	Mr.	Janek Rebalski	1			
Storage Technology Corp.	Mr.	Erich Oetting	1			
Sun Microsystems Computer Co	Mr.	Robert N. Snively	1			
Symbios, Inc.	Mr.	John Lohmeyer	1			
SyQuest Technology, Inc.	Ms.	Randi Mitchem	1			
Toshiba America Elec. Comp.						1
UNISYS Corporation						1
Unitrode Corporation	Mr.	Paul D. Aloisi	1			
Western Digital Corporation	Mr.	Jeffrey L. Willia	1			
Woven Electronics	Mr.	Doug Piper	1			
			34	0	0	17 = 51

John Lohmeyer took an action item to notify NCITS that T10 has recommended the withdrawal of X3.170 and X3.170a.

9.3 SCSI-2 Revision [Milligan]

The committee agreed that no effort to revise SCSI-2 should be undertaken until the standard comes up for its five-year review. The matter of the reference to the withdrawn ESDI was added to the list of issues to be considered during the review. Document 94-143 contains a list of know issues with SCSI-2.

10. New Business

10.1 Project Proposal for Isochronous Serial Bus Protocol (ISP) (98-137r0) [Finch]

Steve Finch reported on the history of the Isochronous Serial Bus Protocol project proposal. He described concerns that T10 might not be the correct location for work on isochronous storage devices. He indicated that the 1394 trade association or the audio-visual working group might be more appropriate locations for work on isochronous storage devices. Steve asked that this item be deleted from this and future agenda.

10.2 Actions on Working Group Recommendations

10.2.1 Add PLPB feature to mode page 19h (98-106r1) [Houlder]

Bob Snively moved that T10 accept 98-106r1 for inclusion in FCP-2. Dal Allan seconded the motion. It was noted that the working group unanimously recommended approval. The motion passed unanimously.

10.2.2 Making the Terminate Task Management Function Obsolete [Snively]

Citing rejected Gene Milligan comment number 127 from the SPI-2 forwarding letter ballot and review (98-108r2), Bob Snively moved that the Terminate Task task management function be made obsolete in SAM-2, SPC-2, SPI-3, FCP-2, and other SCSI standards that have not been forwarded. Peter Johansson seconded the motion. Ralph Weber reported that the working group unanimously recommended the change. The motion passed unanimously.

10.2.3 New Log Page Requirements (98-128r2) [Snively]

Bob Snively reviewed the content of the proposals. Based on the unanimous recommendation of the working group, Bob Snively moved that 98-128r2 be approved for inclusion in SPC-2. George Penokie seconded the motion. The motion passed 27:0:2:22=51.

10.2.4 Persistent Reservations clarifications for SPC-2 (98-124r2) [Snively]

Bob Snively described the proposal as group corrections discovered during implementation of persistent reservations. Based on the unanimous recommendation of the working group, Bob Snively moved that 98-124r2 be approved for inclusion in SPC-2. Paul Aloisi seconded the motion. The motion passed unanimously.

10.3 Making Extent Reservations Obsolete [Snively]

In the absence of any objections, T10 assigned the Chair an action item to notify the T10 Reflector that T10 intends to make extent reservations obsolete for both Reserve and Persistent Reserve commands in SPC-2.

10.4 Making the Change Definition Command Obsolete [Snively]

In the absence of any objections, T10 assigned the Chair an action item to notify the T10 Reflector that T10 intends to make the Change Definition command obsolete in SPC-2.

11. ISO

11.1 ISO Report [Milligan]

T10 ISO Summary 5/98

The bulk of the report will be sent out by reflector and/or ftp.

- Assignment of Device Type 0Fh for OMC Reader/Writers and request for T10 review of 98-151r0 draft from Japan.
- SPI CD comment resolution and DIS text still needed.
- Fast-20 CD comment resolution and DIS text still needed.
- SAM DIS comment resolution and IS text still needed.
- SSC editor needed.
- SPI-2 NWIP and CD submitted for processing.
- SBP-2 awaiting draft for submitting NWIP and CD.
- SES NWIP and CD submitted for processing.
- SCC-2 NWIP and CD submitted for processing.
- NCITS has appointed Gary Robinson Liaison to T10, T11, T12, and T13.
- ISO/IEC is publishing a T12 >900 page standard on CD-ROM no paper.
- JTC 1 TAG has nominated Tom Frost of Lucent for Chair of ISO/IEC JTC 1
- SC 25/WG 4 meeting 5/25 5/27; joint SC 25/WG 4 and SC 26 meeting 5/28; and SC 25 plenary 5/29. 1394 is
 on the agenda of the joint meeting.

- NCITS has formed a new Technical Committee to be the TAG for SC 22 Java Study Group. Formation meeting 5/21.
- JTC 1 N 5180, JTC 1 Policy on Electronic Document Distribution Using the World Wide Web
- The US TAG for the committee on multi media standards IEC TC100 Advisory Group on Strategy (AGS) has a call out for Chairman and US representative.
- An appeal has been submitted due to an apparent loss of the Brazil vote to provide resources for the following projects:
 - SCSI-3 SIP (JTC1 N5107 / N5208), project 25.13.11.04,
 - SCSI-3 SPC (JTC1 N5108 / N5209), project 25.13.11.03,
 - SCSI-3 SBC (JTC1 N5095 / N5207), project 25.13.11.10 which resulted in the NWI failing.

11.2 ISO Business [Milligan]

11.2.1 Instructions to ISO/IEC JTC 1/SC 25/WG 4 Delegation [Milligan]

Roger Cummings moved that T10 instruct its delegation to ISO/IEC JTC 1/SC 25/WG 4 to: 1) Promote the adoption of T10 developed standards as international and EC standards, 2) Provide the Optical Memory Card Reader/Writer device type code, 3) Take under advisement the Optical Memory Card Reader/Writer comments from the working group and T10 Reflector. Bob Snively seconded the motion. The motion passed unanimously.

11.2.2 Comment Resolution on SPI

This item was discussed in the ISO report.

11.2.3 Comment Resolution on Fast-20

This item was discussed in the ISO report.

11.2.4 Comment Resolution on SAM

This item was discussed in the ISO report.

11.2.5 Comment Resolution on FCP or SCC

This item was discussed in the ISO report.

12. Liaison Reports

12.1 T11 Liaison Report [Cummings]

Roger Cummings presented an oral report to the committee and provided the following electronic report for the minutes.

79 people attended the April T11 Plenary. Optivision, Systran and TI lost membership. Pathlight Technology & Troika Networks were added as new member organizations. The membership of T11 is now 80 organizations. The total attendance for the T11 week was 142 people.

Two new T11 Task Groups were established during the April T11 Plenary week, as follows:

- a) T11.3 (Interconnection Schemes)
 Chair Rich Taborek (G2 Networks)
 Vice-Chair Jeff Stai (Brocade)
 Initial membership of 46 organizations
- b) T11.4 (Protocol Mappings)
 Chair Ed Lee (EMF Associates)
 Vice-Chair Kumar Malavalli (Brocade)
 Initial membership of 43 organizations

Four new project proposals were announced as approved. They were:

- a) FC-10KCR (1300-D)
- b) FC-AL-3 (1304-D)
- c) FC-SW-2 (1305-D)
- d) FC-PI'98 (1306-D)

It was also agreed to change the name of FC-PI'98 to FC-PI.

The FC-TAPE & FC-MJS-2 projects were reported to be approved, but numbers have yet been assigned.

First Public Reviews on Revised HIPPI-FP & FC-SW were reported to have closed with no comments submitted. Management Reviews on these projects will occur at the next OMC meeting.

DPANS for the HIPPI-6400-PH & HIPPI-6400-SC projects passed compliance review at the March 1998 OMC meeting. The drafts have been assigned NCITS 323:199x and NCITS 324:199x respectively. Both drafts are in first Public Review closing on 6/9/98.

Project Proposals for FC-FS (Frame Signaling) & FC-VI (VI Architecture mapping) project proposals were forwarded by meeting votes of F46-O00-DNV34 and F50-O00- DNV30 respectively. FC-FS will continue the development of the functionality of the FC-PH standards which is not contained in FC-PI.

T11 is making good progress on electronic procedures and a high degree of automation. A first T11 electronic mailing has been distributed. Over 200 documents have been submitted to the ftp site and automatically numbered. It is now possible to change the representatives (P, A & A#) for an organization via the web page. It is also now possible for T11 meeting attendees to change their address details online. The first two electronic T11 letter ballots (on the FC-10KCR and MJS projects) are currently in progress and will close on 5/30.

The next T11 meetings will be hosted by AMP during the week of June 8-12 at the Tradewinds Hotel, 5500 Gulf Boulevard, St. Petersburg Beach, FL 33706. The telephone number is (813)367-6461, ext. 110, and the rate is \$119/night pus tax for a standard room. The cutoff date for reservations is 5/11. The Plenary meetings will be held as follows:

- a) T11.1 on June 10 @ 6-9pm
- b) T11.2 on June 10 @ 1-6pm
- c) T11.3 on June 11 @ 9am-1pm
- d) T11.4 on June 9 @ 5-9pm
- e) T11 on June 11 @ 2-7pm

12.2 T13 Liaison Report [Milligan]

Gene Milligan reported on the activities of the most recent T13 meeting.

12.3 SFF Industry Group [Allan]

Dal Allan made an oral report to the committee and provided the following electronic report for the minutes.

No interim SSWGs (Specific Subject Working Group) have been held since the last T10 plenary week.

Jay Neer uncovered a missing dimension on the SCA-2 connector specification that will delay publication of SFF-8451 and that of the companion EIA version as well.

The suite of 2 1/2", 3 1/2" and 5 1/4" form factor specifications will expire because all three are EIA or about-to-be EIA standards. EIA only offers hard copy versions of standards, so the usual practice of retiring expired specifications will not be followed. The front cover will be modified to note existence of the standard, and the specification is to remain available in an electronic form.

Bill Ham reported that there will be a SSWG on high-speed serial in Harrisburg, PA. Bob Snively reported that a GBIC SSWG will be held during the July T10 meeting week.

12.4 IEEE 1394 [Johansson]

Peter Johansson made an oral report to the committee and provided the following electronic report for the minutes.

The IEEE has commenced the Sponsor Ballot for draft standard IEEE P1394a. Printed copy of P1394a Draft 2.0 has been distributed to the ballot pool, which consists of slightly more than 100 participants. The ballot closes June 11, 1998, after which time the Chair will convene a Ballot Response Committee (BRC) to resolve whatever comments are submitted. If the comments result in significant technical changes, the IEEE will conduct a recirculation ballot, the result of which may be approval of the draft standard without further comment.

The most recent draft revisions are available in PDF from the FTP site, ftp://ftp.symbios.com/pub/standards/io/1394/P1394a. Meeting minutes, past drafts and other documents are also available at the FTP site.

For reflector announcements, STDS-1394@IEEE.org; subscribe by sending a message to Listserve@IEEE.org.

No future meetings of P1394a are scheduled.

P1394b, chaired by David Wooten, next meets in June 11 - 12 in St. Petersburg, FL. David has organized focused task groups to resolve issues such as long-haul cables, standard cables and their connectors, the PHY/link interface, signaling start-up protocol, steady-state protocol, protocol accelerations, data flow, encoding schemes, etc.

For reflector announcements, P1394b@Zayante.com; subscribe by automated Majordomo services at list-serve@zayante.com.

P1394.1 (bridges) is making improved progress since the conclusion of P1394a has released many of the key individuals. The next meeting of the working group is June 9 - 10, 1997, in St. Petersburg, FL. For reflector announcements, STDS-1394-1@IEEE.org; subscribe by sending a message to Listserve@IEEE.org. The FTP site is ftp://ftp.symbios.com/pub/standards/io/1394/P1394.1.

1394 cable power, both its distribution and management, continues to be an engaging problem. The work has been spun off into a separate Power Conservation working group under the aegis of the 1394 Trade Association.

The IP/1394 working group of the IETF is defining how Internet Protocol (IP) is to be carried by IEEE 1394. The reflector used is IP1394@Mailbag.Intel.com and may be subscribed, automatically, by requests directed to List-serv@Intel.com. The next meeting of the group is at the 42nd IETF Meeting in Chicago, IL, the week of August 24

- 28, 1998. In accordance with IETF culture, most of the development work is conducted via the reflector and not in face-to-face meetings.

The current draft, Draft-IETF-IP1394-IPv4-09, is available from various IETF FTP sites, one of which is ftp:// ftp.isi.edu (see 1id-abstracts.txt in the Internet-Drafts shadow directory). The document is unofficially available as a PDF file from ftp://ftp.symbios.com/pub/standards/io/IETF/IP1394.

All of the definitions for unicast IP traffic are complete and there has been one interoperability festival with participation by three vendors. All of these early implementations interoperated with each other with minor difficulty, since resolved. The working group's work is now focused on multicast and isochronous multicast (see Draft-IETF-IP1394-MCAP-00 at the FTP sites mentioned above).

Peter reported that he has requested that 1394-1995 be submitted for international standardization. He described process by which 1394-1995 and P1394a might be combined in one international standard.

Peter Johansson moved that SBP-2 revision 4 be submitted along with a new work item proposal to ISO/IEC SC 25 WG 4 for internationalization. Gene Milligan seconded the motion. 27:2:0:12=51. Ed Gardner and Dal Allan described their negative votes as being motivated by their traditional disapproval of internationalization of T10 U.S. standards.

Peter Johansson took an action item to provide electronic document source file(s) for SBP-2 to the IR. Gene Milligan took an action item to forward SBP-2 revision 4 along with a new work item proposal to ISO/IEC SC 25 WG 4.

12.5 Copy Protection Technical Working Group (CPTWG) [Worrell]

Steve Finch reported that the next meeting of the Copy Protection Technical Working Group is May 20, 1998 in Burbank, CA. Steve recommended that this item be removed from the agenda until the isochronous activities suggest a need for liaison.

12.6 IEEE P1285 Status

Peter Johansson reported that the IEEE Microprocessor Standards Committee continues to extend the allowable time for the project to complete.

12.7 IEEE P1596.8 Status

Greg McSourley reported that the P1596.8 is going out for review.

12.8 SCSI Trade Association (STA) [Jones/Grantham]

Skip Jones reported that STA will have a meeting here today. He noted that activity is proceeding on SCSI Harbor. He described the efforts to define the migration path for parallel SCSI, i.e., life after Ultra 2, with a vote planned for July.

13. Review of Action Items

- 265) John Lohmeyer will provide the project abstract form to all project editors.
- 266) All project editors will return the project abstract forms regarding their project(s) to the Chair.
- 267) The SSC project editor will provide a public review revision of SSC to John Lohmeyer.
- 268) John Lohmeyer will notify the T10 Reflector that T10 is planning to remove all HVD material from SPI-3.
- 269) Ralph Weber will assign device type code 0Fh to ISO/IEC 14776-381 "SCSI Specification for Optical Card Reader/Writer" in SPC-2.
- 270) Peter Johansson will prepare SBP-2 revision 4 for public review and ISO/IEC activities.
- 271) John Lohmeyer will forward SBP-2 revision 4 to NCITS for processing toward first public review.

- 272) John Lohmeyer will notify NCITS that T10 has recommended the withdrawal of X3.170 and X3.170a.
- John Lohmeyer will notify the T10 Reflector that T10 intends to make extent reservations obsolete for both Reserve and Persistent Reserve commands in SPC-2.
- John Lohmeyer will notify the T10 Reflector that T10 intends to make the Change Definition command obsolete in SPC-2.
- 275) Peter Johansson will provide SBP-2 revision 4 electronic source files to the IR.
- 276) Gene Milligan will forward SBP-2 revision 4 along with a new work item proposal to ISO/IEC SC 25 WG 4.
- 277) John Lohmeyer will put out a call for an SSC technical editor.

14. Meeting Schedule

The next plenary meeting of T10 will be July 16, 1998 in Portland, ME at the Holiday Inn By the Bay (207-775-2311), hosted by Digital Equipment Corp. The meeting will begin at 9:00 a.m. on Thursday.

The meeting list for the next plenary week is:

	July '98 Meeting Map (5/7/98 Version)	
Monday 7/13	9 10 11 12 1 2 3 4 5 6 7 8 9)
	+=======++ EPI Edit	(25)
	+=======+==++==++ Fibre Channel WG ++	(40)
Tuesday 7/14	9 10 11 12 1 2 3 4 5 6 7 8 9)
	SPI-3 WG	(40)
	RBC WG	(20)
	Fibre Channel WG T10/T11 TapeWG	(40)
Wednesday 7/15	9 10 11 12 1 2 3 4 5 6 7 8 9)
	+======+ SCSI WG	(40)
	+=======+ SFF SSWGs	(40)
Thursday 7/16	9 10 11 12 1 2 3 4 5 6 7 8	
		(60/40)
	+=========+=++ STA Marcom	(15)
	meeting begins 30 minutes after T10 plenary ore 2:00 pm	
-	9 10 11 12 1 2 3 4 5	
Ī	SCSI Trade Association (STA)	(30)

Meetings marked with == are T10-authorized meetings. Meetings marked with -- are authorized by other groups and may change without notice.

	7 .	
Meeting	Date 	Location / Contact
SPI-3 WG	5/22 09:00-17:00	Chicago, IL / Gene Milligan
SPI-3 WG	6/19 09:00-17:00	Irvine, CA / Skip Jones
EPI Edit	6/12 09:00-14:00	St. Petersburg Beach / Chuck Brill
MMC-2 WG	6/9-10 09:00-17:00	Tustin, CA / SSI
MMC-2 WG	8/4-5 09:00-17:00	Longmont, CO / Philips
Meeting Map A	Abbreviation Key:	
Amnd:	Amendment	
CAM:	Common Access Method	
CAM-3:	Next generation CAM for	
Diskboys:		ng disk attachment via IEEE 1394
EPI:	SCSI Enhanced Parallel	l Interface (Technical Report)
	Enclosure Profile Stud	
Fast-20:		ega-transfers/second (a.k.a., Ultra)
Fast-40:		ega-transfers/second (a.k.a., Ultra2)
FC:	Fibre Channel	
FC-AL:		rated Loop (a T11 project)
FCLC:	Fibre Channel Loop Cor	nmunity (not an NCITS activity)
I/F:	Interface	
Int'l SG:	International Activity	
HAP:	High Availability Prof	file (Technical Report)
LB:	Letter Ballot	
MMC:	SCSI-3 Multimedia Comm	
PH:	Physical (Connectors,	Cables, Transceivers, etc.)
Plenary:	Full Committee Meeting	
RAID:	Redundant Array of Inc	dependent Devices
RBC:	Reduced Block Commands	5
SBC:	SCSI-3 Block Commands	
SBP-2:		or IEEE 1394 (2nd generation)
SCC:	SCSI-3 Controller Comm	
SCSI:	Small Computer System	
SES:	SCSI Enclosure Service	
SCSI Harbor:		ning a wrapper for SCSI devices
SFF:	SFF Industry Group (no	
SFF ATA:	SFF ATA Cabling SSWG	(not an NCITS activity)
SG:	Study Group	
SMC:	SCSI-3 Medium Changer	Commands
SPC:	SCSI-3 Primary Command	
SPI-2:	Second Generation SCS	
SPI-3:	Third Generation SCSI	
SSA:	Serial Storage Interfa	
SSC:	SCSI-3 Stream Commands	_
SSWGs:	Specific-Subject Work:	
STA:		n (not an NCITS activity)
STA T:	STA Technical Meeting	
STS:	SCSI Transport via SBI	2-2
T10:	Lower Level Interfaces	s Technical Committee
T10.1:	SSA Task Group of T10	
VHDCI	Very High Density Cab	
WG:	Working Group (same as	s Ad Hoc Group)

For more information about T10 activities, please contact the following people:

Activity	Contact	Telephone/Email
CAM-3	Bill Dallas	(603) 881-2508
		dallas@zk3.dec.com
EPI	Bill Ham	(508) 841-2629
		bill.ham@digital.com
FCP, FCP-2, SES	Robert Snively	(415) 336-5332
		Bob.Snively@eng.sun.com
GPP & SSC	Gary Stephens	(602) 321-1725
		6363897@mcimail.com
HAP	Doug Hagerman	(508) 841-2145
		douglas.hagerman@digital.com
SBC	Gene Milligan	(405) 324-3070
		<pre>gene_milligan@notes.seagate.com</pre>
SBP, MMC, MMC-2	Ron Roberts	(916) 677-5714
		rkroberts@aol.com
SBP-2 or RBC	Pete McLean	(303) 678-2149
		<pre>pete_mclean@maxtor.com</pre>
SBP-2	Peter Johansson	• •
		pjohansson@aol.com
RBC	Michael Bryan	(303) 684-1407
		mike_bryan@notes.seagate.com
SCC-2, SPI-2, SPI-3	George Penokie	(507) 253-5208
		gop@us.ibm.com
SMC	Erich Oetting	(303) 673-2178
		Erich_Oetting@Stortek.com
SPC, SPC-2, SAM-2, SEP	Ralph Weber	(972) 503-3205 x228
		roweber@acm.org
SSA-PH1,-PH2,-TL1,-TL2	Larry Lamers	(408) 957-7817
		ljlamers@ix.netcom.com
SSA-S2P & -S3P	John Scheible	(512) 823-8208
		Scheible@vnet.ibm.com
SSS	Keith Parker	(503) 255-1035
		diogenes@europa.com
Other Activities	John Lohmeyer	(719) 533-7560
		lohmeyer@ix.netcom.com

The long-term T10 meeting week schedule is:

Date	Location	Host/Comments
Nov 2-6, 1998 Mar 8-12, 1999 May 3-7, 1999 Jul 12-16, 1999 Sep 13-17, 1999	Portland, ME St. Petersburg Beach, FL Palm Springs, CA Sarasota, FL Manchester, NH Colorado Springs, CO Huntington Beach, CA Palm Springs, CA	-
Proposed 2000 Dat	es:	
Jan 10-14, 2000 Mar 6-10, 2000 May 8-12, 2000 Jul 10-14, 2000 Sep 11-15, 2000 Nov 6-10, 2000	(just in case we decide to	re-instate January meetings)

John Lohmeyer asked that volunteers to host 2000 meetings respond to him by email stating which month(s) and location(s) they are willing to host.

John Lohmeyer moved that T10 raise its maximum room night cost (including tax and parking) from \$125 to \$140. Roger Cummings seconded the motion. The motion passed unanimously.

14.1 Authorization of Working Group Meetings

John noted that the working group meetings are required to operate under the same voting procedures as does T10 (that is, one vote per organization) and the results of a working group are not binding on the parent committee. Ad hoc groups should strive to achieve consensus prior to bringing issues to T10.

Roger Cummings moved that T10 authorize the T10-related meetings and events in the list above. Peter Johansson seconded the motion. The motion passed unanimously.

15. Adjournment

The meeting was adjourned at 12:50 p.m. on Thursday May 7, 1998.

Meeting Attendees -- Enclosure (1)

Name	S	Organization	Electronic Mail Address
Mr. Lawrence J. Lamers	P	Adaptec, Inc.	ljlamers@ix.netcom.com
Mr. Scott Lindstrom	0	AMP, Inc.	slindstr@amp.com
Mr. Bart Raudebaugh	A	Ancot Corp.	bart@ancot.com
Mr. Ron Roberts	Α	Apple Computer	rkroberts@aol.com
Mr. Douglas Wagner	P	Berg Electronics	wagnerdl@bergelect.com
Mr. Ian Morrell	P	Circuit Assembly Corp.	ianm@ca-online.com
Mr. Gyo Shinozaki	V	Circuit Assembly Corp.	gyos@circuitassembly.com
Mr. Robert C. Elliott	P	Compaq Computer Corp.	Robert.Elliott@compaq.com
Mr. Peter Johansson	P	Congruent Software, Inc.	pjohansson@aol.com
Mr. Charles Tashbook	P	Dallas Semiconductor	charles.tashbook@dalsemi.
			COM
Mr. Greg McSorley	Р	Data General / Clariion	greg_mcsorley@dg.com
Mr. Douglas Hagerman	Р	Digital Equipment Corp.	douglas.hagerman@digital.
	7 . II	51 11 1 5 1 6	com
Mr. Sid Snyder		Digital Equipment Corp.	sid.snyder@digital.com
Mr. Roger Cummings	Р	Distributed Processing Tech.	cummings_roger@dpt.com
Mr. Keith Freeberg	A#	Eastman Kodak Co.	freeburg@kodak.com
Mr. I. Dal Allan	P	ENDL	dal_allan@mcimail.com
Mr. Tom Jackson	Α	Exabyte Corp.	thomasj@exabyte.com
Mr. Don Vohar	Α	Fujitsu (FCPA)	dvohar@fcpa.fujitsu.com
Mr. Marcos Barrionuevo	P	Harting, Inc. of N.	Marcos.Barrionuevo@
		America	harting.com
Mr. J. R. Sims	P	Hewlett Packard Co.	robsims@hootie.lvld.hp.
Mr. Thomas J. Kulesza	P	Honda Connectors	tkulesza@hondaconnectors.
Mr. George Penokie	P	IBM Corp.	gop@us.ibm.com
Mr. Dan Colegrove	A#	IBM Corp.	colegrov@us.ibm.com
Mr. Tim Bradshaw	P	Iomega Corp.	bradshat@iomega.com
Mr. Hayden Smith	0	Lasercard Systems Corp.	hsmith@lasercard.com
Mr. Dean Wallace	P	Linfinity Micro	75671.3443@compuserve.com
Mr. Alan Littlewood	P	LSI Logic Corp.	alanl@lsil.com
Mr. Chuck Grant	Α	Madison Cable Corp.	charles_grant@madisonusa.
			ccmail.compuserve.com
Mr. Pete McLean	P	Maxtor Corp.	<pre>pete_mclean@maxtor.com</pre>
Mr. Bob Masterson	P	Methode Electronics, Inc.	rwmast@methode.com
Mr. Jay Neer	Α	Molex Inc.	jneer@molex.com
Mr. Edward A. Gardner	P	Ophidian Designs	eag@ophidian.com
Mr. William P.	P	Philips Electronics	BMcFerrin@aol.com
McFerrin			
Mr. Skip Jones	P	QLogic Corp.	sk_jones@qlc.com
Mr. Mark Evans	А	Quantum Corp.	mark.evans@quantum.com
Mr. Gene Milligan	Ρ	Seagate Technology	Gene_Milligan@notes. seagate.com
Mr. Dave Guss	P	Silicon Systems, Inc.	dave.guss@tus.ssi1.com
Mr. Stephen G. Finch	Α	Silicon Systems, Inc.	steve.finch@tus.ssi1.com
Mr. Janek Rebalski	A	Sony Electronics, Inc.	<pre>janek_rebalski@asd.sel. sony.com</pre>
Mr. Erich Oetting	P	Storage Technology Corp.	erich_oetting@stortek.com
Mr. Robert N. Snively	P	Sun Microsystems	bob.snively@sun.com
		Computer Co	
Mr. John Lohmeyer	P	Symbios, Inc.	lohmeyer@ix.netcom.com
Mr. Dave Evans	A#	Symbios, Inc.	dephoto@goldrush.com
Mr. Ralph O. Weber	A	Symbios, Inc.	roweber@acm.org

Williams

Corporation

Ms. Randi Mitchem

A# SyQuest Technology, Inc. randi.mitchen@syquest.com

Mr. Dave Wehrman

O UNISYS Corporation dave.wehrman2@unisys.com

Mr. Paul D. Aloisi

P Unitrode Corporation aloisi@unitrode.com

Mr. Jeffrey L.

P Western Digital Jeffrey.L.Williams@wdc. Mr. Doug Piper P Woven Electronics doug.piper@internetmci. com

49 People Present

Status Key: P - Principal A,A# - Alternate O - Observer L - Liaison V - Visitor

T10 Attendance Database on 1998/05/13 at 10:34:55 -- Enclosure (2)

Mr. Daniel Weng (O) Phone: 886-2-3773357
Acard Technology Corp. Fax: 886-2-7374916

IF NO 6 Email:

Wu Hsing Street Taipei Taiwan ROC

Mr. Lawrence J. Lamers (P) Phone: (408) 957-7817 Adaptec, Inc. Fax: (408) 957-7193

Adaptec, Inc. Fax: (408) 957-7193
691 S. Milpitas Blvd. Email: ljlamers@ix.netcom.com

Milpitas, CA 95035

Mr. Tak Asami (A#) Phone: (714) 455-8201 Adaptec, Inc. Fax: (714) 455-8102

9701 Jeronimo Rd. Email: asami@itc.adaptec.com

Irvine, CA 92718

Mr. Vincent Bastiani (A#) Phone: (408) 957-7153

Adaptec, Inc. Fax:

691 S. Milpitas Blvd. Email: bastiani@corp.adaptec.com

Milpitas, CA 95035

Mr. Wally Bridgewater (A#) Phone: (408) 945-8600

Adaptec, Inc. Fax:

691 S. Milpitas Blvd. Email: wally@eng.adaptec.com

Milpitas, CA 95035

Mr. Mark Delsman (A#) Phone: (408) 957-5661

Adaptec, Inc. Fax

691 S. Milpitas Blvd. Email: mdelsman@corp.adaptec.com

Milpitas, CA 95035

Mr. Norm Harris (A) Phone: (408) 957-2230 Adaptec, Inc. Fax: (408) 957-7145

691 S. Milpitas Blvd. Email: nharris@corp.adaptec.com

Milpitas, CA 95035

Mr. Richard Moore (A#) Phone: (714) 455-8326

Adaptec, Inc. Fax:

2801 McGaw Email: richard_moore@corp.adaptec.com

Irvine, CA 92714

Mr. Tom Schneider (A#) Phone: (714) 455-8266 Adaptec, Inc. Fax: (714) 455-8102

9701 Jeronimo Email: schneid@itc.adaptec.com

Irvine, CA

Mr. Erik Falk (O) Phone: (206) 881-8004 ADIC Fax: (206) 881-2296

POB 2996 Email:

Redmond, WA 98073-2996

Mr. Steven P. Ego (O) Phone: (512) 258-2303
Aeronics Inc Fax: (512) 258-4392 Aeronics Inc. Fax: (512) 258-4392 12741 Research Blvd #500 Email:

Austin, TX 78759

Mr. Kent Manabe (O) Phone: (408) 441-9232
America Kotobuki Electronics Fax: (408) 441-9246
100 Century Center Ct. #310 Email: manabe@ix.netcom.com

San Jose, CA 95112

Mr. Charles Brill (P) Phone: (717) 810-4642 AMP, Inc. Fax: (717) 558-6179 Mail Stop 210-20 Email: cebrill@amp.com

P. O. Box 3608 Harrisburg, PA 17105

Mr. Bob Atkinson (0) Phone: (717) 780-4274 AMP, Inc. Fax: (717) 780-4113 PO Box 3608 Email: rdatkins@amp.com

Harrisburg, PA 17105

Mr. Scott Lindstrom (O) Phone: (704) 824-6352 Fax: (704) 824-6268 AMP, Inc. 603 Groves Street Email: slindstr@amp.com

Lowell, NC 28098

Ms. Bonnie Rose (0) Phone: (416) 291-4401 x2239
Amphenol Canada Corp. Fax: (416) 292-0647

Amphenol Canada Corp. Fax: (416) 292-0647 20 Melford Dr. Email: brose@cosmosgroup.com

Scarboraugh, Ontario

Endicott, NY 13760

Hamden, CT 06514

Canada M1B 2X6

Mr. Michael Wingard (P) Phone: (607) 786-4241 Amphenol Interconnect Fax: (607) 786-4311 20 Valley St. Email: mikwingard@aol.com

Mr. Bill Mable (A) Phone: (607) 786-4236 Amphenol Interconnect Fax: (607) 786-4311

20 Valley St. Email: bmable@spectra.net Endicott, NY 13760

Mr. Carl Booth (0) Amphenol/Spectra-Strip Phone: (203) 287-7455 Fax: (203) 281-5872 Email: 7480559@mcimail.com 720 Sherman Ave.

Mr. Gary Porter (P) Phone: (415) 322-5322 Ancot Corp. Fax: (415) 322-0455 115 Constitution Dr. Email: garyp@ancot.com

Menlo Park, CA 94025

Mr. Bart Raudebaugh (A) Phone: (415) 322-5322 Ancot Corp. Fax: (415) 322-0455

115 Constitution Dr. Email: bart@ancot.com

Menlo Park, CA 94025

Mr. Harlan Andrews (P) Phone: (408) 974-6430 Apple Computer Fax: (408) 862-7577

6 Infinite Loop MS 306-2MS Email: hea@apple.com

Cupertino, CA. 95014

Mr. Ron Roberts (A) Phone: (530) 677-5714

Apple Computer Fax: (530) 677-1218

Apple Computer
3535 Monroe St. MS:69-G Email: rkroberts@aol.com
Santa Clara, CA 95051

Mr. James R. Bergsten (O) Phone: (408) 260-5900
Ark Research Corp. Fax: (408) 260-5908
1190 Saratoga Ave. #110 Email: bergsten@arkres.com

San Jose, CA 95129-3433

Ms. Brigitte Tiszauer (O) Phone: (408) 383-2198

ATG Cygnet Inc. Fax: 2560 Junction Ave. Email:

San Jose, CA 95134-1902

Mr. Douglas Wagner (P) Phone: (805) 498-0325
Berg Electronics Fax: (805) 498-0325

472 Delwood Ct. Email: wagnerdl@bergelect.com

Newbury Park, CA 91320-4819

Mr. Edward Cady (A#) Phone: (503) 359-4556 Berg Electronics Fax: (503) 359-9273

15005 NW Timmerman Road Email: edcady@aol.com

Forest Grove, OR 97116

Mr. Jim Koser (A) Phone: (717) 938-7679
Berg Electronics Fax: (717) 938-7991

825 Old Trail Road Email:

Etters, PA 17319

Mr. Philippe Schreck (O) Phone: 33-130806179

Bull S.A. Fax: 30-807285
Rue Jean Jaures Email:

78340 Les Clayes Sous Bois France

Mr. Bob Gannon (O) Phone: (860) 774-4812

C&M Corp. Fax: (860) 774-7330 PO Box 348 Email: rgannon@cm-corp.com

51 South Walnut St. Wauregan, CT 06387

Mr. Richard Wagner (P) Phone: (508) 791-3161
Cable Design Technologies Fax: (508) 798-8353
28 Sword Street Email: rwagner@montrose-cdt.com

Auburn, MA 01501

Mr. Joseph Merkwaz (A) Phone: (508) 791-3161 Cable Design Technologies Fax: (508) 798-8353

28 Sword Street Email:

Auburn, MA 01501-0276

Phone: 44-1592-630810 Mr. David Ruxton (0) Calluna Technology Ltd. Email: Fax: 44-1592-630920

One Blackwood Road

Eastfield Glenrothes Fife KY7 4NP Scotland

Mr. Gerry Johnsen (P) Phone: (612) 551-4000 Ciprico Inc. Fax: (612) 551-4002 2800 Campus Dr. Suite 60 Email: gerry@ciprico.com

Plymouth, MN 55441

Mr. Raymond Gilson (A) Phone: (612) 551-4047 2800 Campus Drive Fax: (612) 551-4002 Email: rwg@ciprico.com

Suite 60

Plymouth, MN 55441

Phone: (949) 898-1780 Mr. Ian Morrell (P) Circuit Assembly Corp. Fax: (949) 855-4298 Email: ianm@ca-online.com 18 Thomas St.

Irvine, CA 92718-2703

Phone: (714) 855-7887 Mr. Dennis Lang (A) Fax: (714) 855-4298 Circuit Assembly Corp.

Email: dennisl@ca-online.com 18 Thomas St.

Irvine, CA 92718-2703

Phone: (510) 226-2394 Mr. Ben Chang (0)

Cirrus Logic Inc. Fax:

3100 W. Warren Ave. Email: ben@corp.cirrus.com

Fremont, Ca 94538

Mr. Ken Wolfgang (0) Phone: (303) 460-5228 x6661

Cirrus Logic Inc. Fax:

350 Interlocken Parkway Email: kenw@colorado.cirrus.com

Broomfield, CO 80021

Mr. Edward Haske (O) Phone: (714) 454-0800 CMD Technology Fax: (714) 455-1656 1 Vanderbilt Email: haske@cmd.com Irvine, CA 92718

Mr. Robert C. Elliott (P) Phone: (281) 518-5037 Compaq Computer Corp. Fax: (281) 518-7135

MS 120810 Email: Robert.Elliott@compaq.com

PO Box 692000

Houston, TX 77269-2000

 Mr. Bill Galloway
 (A)
 Phone: (281) 514-6732

 Compaq Computer Corp.
 Fax: (281) 514-0513

 P.O. Box 692000
 M090504
 Email: Bill.Galloway@compaq.com

Houston, TX 77269-2000

Mr. Peter Johansson (P) Phone: (510) 531-5472 Congruent Software, Inc. Fax: (510) 531-2942 Email: pjohansson@aol.com 3998 Whittle Ave. Oakland, CA 94602

Mr. Geoffrey Hoese (O) Phone: (512) 349-0300 x17 Crossroads Systems Inc. Fax: (512) 349-0304 6101 W. Courtyard Dr. Email: gbh@crossroads.com

Bldg 1 So

Austin, TX 78730

Mr. Charles Tashbook (P) Phone: (972) 371-4110 Dallas Semiconductor Fax: (972) 371-3715

Email: charles.tashbook@dalsemi.com 4401 S. Beltwood Pkwy.

Dallas, TX 75244-3292

Mr. Michael Smith (A) Phone: (972) 371-4457 Fax: (214) 450-3715 Dallas Semiconductor

Email: mike.smith@dalsemi.com 4401 S. Beltwood Pkwy

Dallas, TX 75244

Mr. Greg McSorley (P) Phone: (508) 898-6032
Data General / Clariion Fax: (508) 898-5413
4400 Computer Dr. Email: greg_mcsorley@dg.com

Westboro, MA 01580

Mr. Gary S. Peterson (A) Phone: (508) 480-7150 Fax: (508) 480-7913 Data General / Clariion

MS C-33 Email: gpeterson@clariion.com Coslin Dr.

Southboro, MA 01722

Mr. Bill Anderson (O) Phone: (408) 980-8344 Fax: (408) 980-9750 DDK Electronics

Email: w.anderson@world.att.net 3001 Oakmead Village Dr. Santa Clara, CA 95051

Phone: (301) 498-0200 Mr. James Benfer (0)

Digi-Data Corp. Fax: 8580 Dorsey Run Road Email:

Jessup, MD 20794

Mr. Douglas Hagerman (P) Phone: (508) 841-2145 Fax: (508) 841-6100 Digital Equipment Corp.

Email: douglas.hagerman@digital.com SHR3-2/W3

334 South Street Shrewsbury, MA 01545

Mr. William Dallas (A#) Phone: (603) 884-2508 Digital Equipment Corp. Fax: (603) 884-2257 ZK03-3/T79 Email: dallas@zk3.dec.com

110 Spit Brook Road Nashua, NH 03062-2698

Dr. William Ham (A#) Phone: (508) 841-2629 Digital Equipment Corp. Fax: (508) 841-5266 SHR3-2/W04 Email: bill.ham@digital.com

334 South Street Shrewsbury, MA 01545

Phone: (719) 548-2837 Mr. Sid Snyder (A#) Digital Equipment Corp. Fax: (719) 548-2451 Email: sid.snyder@digital.com

1245 Tari Lane

Colorado Springs, CO 80921

Phone: (508) 841-2003 Ms. Kathy Straitt (A) Digital Equipment Corp. Fax: (508) 841-5266

SHR3-2/C5 Email: straitt@starch.ENET.dec.com

334 South Street

Maitland, FL 32751

Shrewsbury, MA 01545-4113

Phone: (719) 548-2268 Mr. Stephen J. Sicola (0) Fax: (719) 548-2541 Digital Equipment Corp. 301 Rockrimmon Blvd. So. Email: sicola@peaks.dec.com

Colorado Springs, CO 80132

Mr. Keith W. Parker (P) Phone: (503) 255-1035

Diogenes SCSI Fax:

10304 N.E. Beech St. Email: diogenes@europa.com Portland, OR 97220

Mr. Roger Cummings (P) Phone: (407) 830-5522 x348
Distributed Processing Tech. Fax: (407) 260-5366
140 Candace Dr. Email: cummings_roger@dpt.com

Maitland, FL 32751

Phone: (407) 830-5522 x380

Mr. Mike Gerwig (A)
Distributed Processing Tech. Fax: (407) 260-5366 140 Candace Dr. Email: gerwig@dpt.com Mr. Robert Reisch (P) Phone: (716) 588-0573 Eastman Kodak Co. Fax: (716) 588-2624 460 Buffalo Road Email: reisch@kodak.com

Rochester, NY 14652-3816

Phone: (716) 722-0997 Mr. Rick Bohn (A) Eastman Kodak Co. Fax: (716) 588-2624

460 Buffalo Road Email: bohn@sector.kodak.com

Rochester, NY 14652-3816

Mr. James D. Converse (XO) Phone: (716) 781-9091 Eastman Kodak Co. Fax: (716) 724-902. Corp. Standards NCITS Chair Email: jdc@kodak.com Fax: (716) 724-9023

343 State Street Rochester, NY 14650

Mr. Terry Maezawa (0) Phone: (404) 487-5815

Electronic&Ind. Enterprises Fax: Suite 216 Email:

21 Eastbrook Bend

Peachtree City, GA 30269

Phone: (408) 867-6630 Mr. I. Dal Allan (P) ENDL Fax: (408) 867-2115

14426 Black Walnut Ct. Email: dal_allan@mcimail.com

Saratoga, CA 95070

Ms. Constance Kephart (P) Phone: (303) 417-7927 Exabyte Corp. Fax: (303) 417-7829 1685 38th Street Email: conniek@exabyte.com

Boulder, CO 80301

Mr. Tom Jackson (A) Phone: (303) 417-7201 Exabyte Corp. Fax: (303) 417-7829 1685 38th Street Email: thomasj@exabyte.com Boulder, CO 80301

Mr. Mark Hammang (A) Phone: (303) 682-6575

FCPA Intellistor (Fujitsu) Fax: (303) 682-6401

2402 Clover Basin Dr. Email: mhammang@intellistor.com

Longmont, CO 80503

Mr. Gary R. Stephens (A) Phone: (520) 321-1725 Fax: (520) 321-1725 FSI Consulting Services 1825 N. Norton Email: 6363897@mcimail.com

Tucson, AZ 85719

Phone: (520) 321-1725 Mr. Gary R. Stephens (0) FSI Consulting Services Fax: (520) 321-1725 1825 N. Norton Email: 6363897@mcimail.com Tucson, AZ 85719

Mr. Chris Nieves (P) Phone: (408) 894-3556 Fujitsu Fax: (408) 894-3901

2904 Orchard Pkwy. Email: cnieves@fcpa.fujitsu.com

San Jose, CA 95134-2009

Mr. Michael Nguyen (O) Phone: (408) 894-3542 Fax: (408) 894-3901 Fujitsu

2904 Orchard Pkwy Email: michael.nguyen@fcpa.fujitsu.com

San Jose, CA 95134

Mr. Don Vohar (A) Phone: (408) 894-3840 Fujitsu (FCPA) Fax: (408) 894-3748

Email: dvohar@fcpa.fujitsu.com 2904 Orchard Pkwy.

San Jose, CA 95134

Phone: (408) 894-3826 Mr. Matt Rooke (0) Fujitsu Computer Prods Amer Fax: (408) 894-4009
2904 Orchard Pkwy. Email: mrooke@fcpa.fujitsu.com

San Jose, CA 95134

Mr. Kazuo Nakashima (O) Phone: (408) 894-3849
Fujitsu Computer Products,Am Fax: (408) 894-3907
2904 Orchard Parkway Email: knakashima@fcpa.fujitsu.com

San Jose, CA 95134

Mr. Kevin R. Pokorney (0) Phone: (303) 682-6649 Fujitsu Computer Products,Am Fax: (303) 682-6401 2402 Clover Basin Drive Email: pokorney@intel

Email: pokorney@intellistor.com

Mr. Mike Nelson (0) Phone: 81-573-4444 Fujitsu Ltd. Fax: 81-573-2643

2 Longwalk Road Stockley Park Uxbridge Middlesex UB11 1AB UK

Longmont, CO 80503

Mr. Bob Thornton (O) Phone: (408) /150-1702
Fujitsu Takamisawa America Fax: (408) 745-4971
Email: bthornto@fta.fujitsu.com

Email:

Ms. Liza Hunt (XO) Phone: Global Engineering Documents Fax: Email:

15 Inverness Way East Englewood, CO 80112-5704

Phone: (847) 741-1500 x286 Mr. Rodger Burke (A) Fax: (847) 741-8257 Harting Elektronik Inc.

1370 Bowes Road Email: Rodger.Burke@harting.com Elgin, IL 60123

Mr. Dominique Desourteaux (O) Phone: 33 1 49 3834 62 Harting Interface Division Fax: 33 1 49 8904 14

181 Av des Nations Email: d.desourteaux.harting@wanadoo.fr

BP 60086

F95972 Roissy CDG - FRANCE

Mr. Marcos Barrionuevo (P) Phone: (847) 741-1500 x280 Harting, Inc. of N. America Fax: (847) 741-8257

1370 Bowes Road Email: Marcos.Barrionuevo@harting.com

Elgin, IL 60123

Mr. Michael Weilert (0) Phone: (941) 693-2962
Health Liability Mgmt. Corp. Fax: (941) 693-2962

Suite 100 Email:

13738 Oxbow Road Fort Myers, FL 33905

Mr. Philip Facendola (O) Phone: (508) 541-2213 Helix/Hitemp Cables, Inc. Fax: (508) 541-8122

20 Forge Park Email:

Franklin, MA 02038

Mr. J. R. Sims (P) Phone: (970) 635-6774 Hewlett Packard Co. Fax: (970) 635-6610

800 S. Taft Ave. Email: robsims@hootie.lvld.hp.com

Loveland, CO 80537

Mr. Matt Wakeley (A) Phone: (916) 785-4259 Hewlett Packard Co. Fax: (916) 785-1997

8000 Foothills Blvd. Email:

Roseville, CA 95747

Mr. Donald C. Loughry (XO) Phone: (408) 447-2454 Hewlett Packard Co. Fax: (408) 447-2247

M/S 43UC NCITS Vice Chair Email: don_loughry@hp6600.desk.hp.com

19420 Homestead Rd. Cupertino, CA 95014

Mr. Brad Culp (0) Phone: (970) 350-4592

Hewlett Packard Co. Fax: (970) 352-3524

700 71st. Ave. Email: brad-culp@hp.com

Greeley, CO 80631

Mr. Bill Hutchison (O) Phone: (208) 396-3369
Hewlett Packard Co. Fax: (208) 396-5117
P.O. Box 15 Email: hutch@boi.hp.com

Boise, ID 83707-0015

Mr. Steve Krupa (0) Phone:

Hewlett Packard Co. Fax: Filton Road Email:

Stoke Gifford

Bristol BS12 6QZ England

Mr. Ruben Yomtoubian (0) Phone: (408) 986-9770 x467 Hitachi America Fax: (408) 986-1821

3101 Tasman Dr. Email: r_yomtoubian@hitachi.com

Santa Clara, CA 95054

Mr. Zane Daggett (P) Hitachi Cable Manchester,Inc Phone: (603) 669-4347 x236 Fax: (603) 669-9621

900 Holt Ave. Email: zdaggett@hcm.hitachi.com

Manchester, NH 03109

Mr. Paul Boulay (0)

Hitachi Computer Systems Div Fax: (408) 900-102
Email: p_boulay@hitachi.com Mr. Paul Boulay (0) Phone: (408) 986-9770 x205

Santa Clara, CA 95054

Mr. Hitoshi Ogawa (O) Phone: 1181-45881-1241 Fax: 1181-45860-1674 Hitachi Ltd.

Systems Development Lab Email: hogawa@yokolab.sdl.hitachi.co.jp

292 Yoshida-Cho

Yokohama-Shi 244 Japan

Mr. Anthony Yang (P) Phone: (408) 748-2806 Hitachi Storage Products Fax: (408) 235-8942 3101 Tasman Drive M/S 75 Email: yang_a@halsp.hitachi.com

Santa Clara, CA 95054

Santa Clara, CA 95054

Phone: (408) 748-2806 ts Fax: (408) 235-8942 75 Email: vuong g@halsp. Mr. Quang Vuong (A) Hitachi Storage Products

3101 Tasman Drive M/S 75 Email: vuong_q@halsp.hitachi.com

Phone: (607) 748-0025 Mr. Francesco Liburdi (0) Hollingsworth Corp. Fax: (607) 748-0037

1425 Elmira St. Email: liburdif@hollingsworth.com Endicott, NY 13760

Mr. Thomas J. Kulesza (P) Phone: (847) 913-9566

Fax: (847) 913-9587 Honda Connectors

960 Corporate Woods Parkway Email: tkulesza@hondaconnectors.com

Vernon Hill, IL 60061

Phone: (847) 913-9566 Mr. Terry Enright (A)

Fax: (847) 913-9587 Honda Connectors

960 Corporate Woods Parkway Email: Vernon Hill, IL 60061

Mr. George Penokie (P) Phone: (507) 253-5208
IBM Corp. Fax: (507) 253-2880
2B7/114-2 Email: gop@us.ibm.com
37st Highway 52 N.

Rochester, MN 55901-7829

Mr. Dan Colegrove (A#) Phone: (408) 256-1978
IBM Corp. Fax: (408) 256-1044
LJ4/012 Email: colegrov@us.ibm.com
5600 Cottle Rd.

San Jose, CA 95193

Mr. John P. Scheible (A) Phone: (512) 823-8208 IBM Corp. Fax: (512) 823-0758

Bldg 815 MS 4051 Email: Scheible@vnet.ibm.com

11400 Burnett Rd. Austin, TX 78758

Mr. Robert Basham (O) Phone: (520) 799-4923

IBM Corp. Fax:

65U/031-Z Email: robbyb@us.ibm.com

9000 S. Rita Rd. Tucson, AZ 85744

Mr. Larry Ko (O) Phone: (408) 965-5016
Initio Corp. Fax: (408) 577-0640
2188 B Del Franco Street Email: larryk@inito.com

San Jose, CA 95131

 Mr. Tim Bradshaw (P)
 Phone: (801) 778-4262

 Iomega Corp.
 Fax: (801) 778-4170

 1821 Iomega Way
 Email: bradshat@iomega.com

Roy, UT 84067

Mr. Darrell Redford (A) Phone: (801) 778-4432 Iomega Corp. Fax: (801) 778-4170 1821 West Iomega Way Email: redfordd@iomega.com

Roy, UT 84067

Ms. Monica Vago (L) Phone: (202) 626-5739
ITI (NCITS Secretariat) Fax: (202) 638-4922
1250 Eye St. NW Email: mvago@itic.nw.dc.us
Suite 200

Washington, DC 20005-3922

Mr. Don Chambers (0) Phone: (714) 753-2679

JAE Electronics Inc. Fax: Suite 100 Email:

142 Technology Drive Irvine, CA 92718-2401

Mr. Dennis Moore (P) Phone: (303) 465-1800 KnowledgeTek, Inc. Fax: (303) 426-1350

7230 West 119th Pl, Suite C Email: dmoore@ix.netcom.com

Broomfield, CO 80020

Phone: (650) 969-4428 Fax: (650) 967-6524 Email: hsmith@lasercard.com Mr. Hayden Smith (0) Lasercard Systems Corp. 2644 Bayshore Parkway

Mr. Dean Wallace (P) Phone: (714) 898-8121 Fax: (714) 893-2570 Linfinity Micro

11861 Western Ave. Email: 75671.3443@compuserve.com

Garden Grove, CA 92641

Mountain View, CA 94043

Mr. Louis Grantham (A) Phone: (972) 396-7002 Linfinity Micro Fax: (972) 396-7533

101 W. McDermott Email: lgrantham@linfinity.com

Allen, TX 75013

Mr. Alan Littlewood (P) Phone: (408) 433-7765

LSI Logic Corp. Fax:

Email: alanl@lsil.com 1525 McCarhy Blvd.

San Jose, CA 95035

Mr. Robert Bellino (P) Phone: (508) 752-2884 x730
Madison Cable Corp. Fax: (508) 752-4230
125 Goddard Memorial Dr. Email: robert_bellino@madisonusa.ccmail.

compuserve.com

Worchester, MA 01603

Phone: (508) 752-2884 x725 Mr. Chuck Grant (A) Madison Cable Corp. Fax: (508) 752-4230

125 Goddard Memorial Drive Email: charles_grant@madisonusa.ccmail.

compuserve.com

Worcester, MA 01603

Mr. Pete McLean (P) Phone: (303) 678-2149 Maxtor Corp. Fax: (303) 678-2165

2190 Miller Dr. Email: pete_mclean@maxtor.com

Longmont, CO 80501

Mr. LeRoy Leach (0) Phone: (303) 678-2828 Maxtor Corp. Fax: (303) 678-2308

2190 Miller Dr. Email: leroy_leach@maxtor.com

Longmont, CO 80501-6744

Phone: (508) 256-1300 x134 Mr. Randy Banton (0)

Mercury Computer Fax: 199 Riverneck Road Email: Chelmsford, MA 01824

мт. вор Masterson (Р) Phone: (708) 867-9600 Methode Electronics, Inc. Fax: (708) 867-3149

7444 West Wilson Ave Email: rwmast@methode.com

Chicago, IL 60656

Mr. Frank Samela (A) Phone: (708) 867-9600
Methode Electronics, Inc. Fax: (708) 867-0346
7444 W. Wilson Ave. Email: franksam@methode.com

Chicago, IL 60148

 Mr. John Cannon (0)
 Phone: (708) 867-9600

 Methode Electronics, Inc.
 Fax: (708) 867-9130

 7444 West Wilson Ave
 Email:

Chicago, IL 60656

Mr. George Chrysanthakopoulus (0)Phone: (425) 703-5715

Microsoft Fax:

Microsoft Fax: 1 Microsoft Way 26N12109 Email: Georgioc@microsoft.com

Redmond, WA 98052

Mr. Devon Worrell (0) Phone: (425) 703-8118 Fax: (415) 396-3336

Email: DevonW@microsoft.com 1 Microsoft Way

Redmond, WA 98052

Mr. Joe Dambach (P) Phone: (708) 527-4546 Molex Inc. Fax: (708) 969-1352 2222 Wellington Court Email: jdambach@molex.com

Lisle, IL 60532

Mr. Jay Neer (A) Phone: (561) 447-2907 Molex Inc. Fax: (561) 447-2908 399 W. Camino Gardens Blvd. Email: jneer@molex.com

Suite 103

Boca Raton, FL 33432

Mr. Ken Keller (O) Phone: (217) 384-8596

Motorola Inc. Fax: 1101 E. University Email:

Urbana, IL 61801

Mr. Brian McKean (P) Phone: (303) 381-4246 Fax: (303) 413-0464

4900 Pearl East Circle #104 Email: brianm@mylexboulder.com

Boulder, CO 80301-6108

Phone: (510) 608-2536 Mr. Alex Shih (A) Fax: (510) 797-4907 Mylex Corp. Email: alexs@mylex.com 34551 Arderwood Blvd.

Fremont, CA 94555-3607

Phone: (408) 588-5422 Mr. Tom Luan (0)

NEC Electronics Inc. Fax: (408) 588-5463 Email: tom.luan@el.nec.com M/S 2300

2880 Scott Blvd

Santa Clara, CA 95052-8062

Phone: (408) 588-5408 Mr. E. Jake Berzon (0) NEC Electronics, Inc. Fax: (408) 588-5464

2880 Scott Blvd. MS SC2200 Email: jberzon@asic.mtv.nec.com

Santa Clara, CA 95052-8062

Mr. Chris Smith (0) Phone: (408) 434-7122
NEC Systems Laboratory Inc. Fax: (408) 434-7119
110 Rio Robles Ave Email:

110 Rio Robles Ave. Email:

San Jose, CA 95134

Mr. Shinobu Yonemitsu (0) Phone: (408) 433-1486 NEC Technologies Inc. Fax: (408) 434-7124

Reg Manager Storage Email:

339 North Bernardo

Mountain View, Ca 94043-5223

Phone: (408) 523-6643 Mr. Lam Dang (0)

Oak Technology, Inc. Fax:

139 Kifer Court Email: LamD@oaktech.com

Sunnyvale, CA 94086

Phone: (408) 523-6652 Mr. Robin Freeze (0)

Oak Technology, Inc. Fax:

139 Kifer Court Email: RobinF@oaktech.com

Sunnyvale, CA 94086

Mr. Neil MacLean (0) Phone: (408) 328-6837 Fax: (408) 774-5390 Oak Technology, Inc. Email: neilm@oaktech.com 139 Kifer Court

Sunnyvale, CA 94086

Mr. Edward A. Gardner (P) Phone: (719) 593-8866 Fax: (719) 593-8989 Ophidian Designs 1262 Hofstead Terrace Email: eag@ophidian.com

Colorado Springs, CO 80907

Phone: (619) 571-5555 x213 Mr. Dan Davies (0) Overland Data Inc. Fax: (619) 571-3664 8975 Balboa Ave. Email: ddavies@ovrland.com

San Diego, CA 92123-1599

Princeton, New Jersey 08540

Mr. Stephen F. Heil (O) Phone: (609) 987-3948
Panasonic Technologies, Inc Fax: (609) 987-0483
2 Research Way, 3rd Floor Email: sfh@research.panasonic.com

Mr. George Ayer (0) Phone: (708) 887-1000 Panduit Corporation Fax: (708) 887-0230 412 Rockwell Court Email:

Mr. William P. McFerrin (P) Phone: (303) 651-5408 Fax. (305, 1. Email: BMcFerrin@aol.com Philips Electronics 1860 Lefthand Circle Longmont, CO 80501

Mr. Randall C. Hines (A) Phone: (303) 651-5406 Philips Electronics Fax: (303) 682-3029

1860 Lefthand Circle Email: hinesr@worldnet.att.net

Longmont, CO 80501

Burr Ridge, IL 60521

Mr. Sunil Nethisingne (0),
Philips Semiconductors MS 52 Fax: (408) 991-4500
Email: nethisin@scs.philips.com

Mr. Skip Jones (P) Phone: (714) 668-5058 QLogic Corp. Fax: (714) 688-5008 3545 Harbor Blvd. Email: sk_jones@qlc.com Costa Mesa, CA 92626

Mr. Ting Li Chan (A) Phone: (714) 668-5058 QLogic Corp. Fax: (714) 688-5008 Email: t_chan@qlc.com 3545 Harbor Blvd. P.O. Box 6725

Phone: (508) 770-6364 Mr. Patrick McGarrah (P) Quantum Corp. Fax: (508) 770-2299

333 South St. Email: pat.mcgarrah@quantum.com

Shrewsbury, MA 01545

Costa Mesa, CA 92626

Mr. Mark Evans (A) Phone: (408) 894-4019 Fax: (408) 894-4990 Quantum Corp.

Email: mark.evans@quantum.com 500 McCarthy Blvd.

Milpitas, CA 95035

Mr. James McGrath (A#) Phone: (408) 894-4504 Quantum Corp. Fax: (408) 894-6375 500 McCarthy Blvd. Email: JMCGRATH@QNTM.COM

Milpitas, CA 95035

Mr. John A. Fobel (0) Phone: (909) 987-3966 Fax: (909) 989-2365 Rancho Technology, Inc. 10783 Bell Court Email: johnf@rancho.com

Rancho Cucamonga, CA 91730

Mr. Ken-Ichi Kojima (O) Phone: 584-64-4399 Fax: 584-64-5096 Email: Sanyo Electric Co., Ltd.

180 Ohmori Anpachi-Cho

Anpachi-Gun

Gifu-Ken 503-01 Japan

Phone: (405) 324-3070 Mr. Gene Milligan (P) Fax: (405) 324-3794 Seagate Technology

MS OKM 251 Email: Gene_Milligan@notes.seagate.com

P. O. Box 12313

Oklahoma City, OK 73157

Mr. Gerald Houlder (A) Phone: (612) 806-2869 Seagate Technology Fax: (612) 806-2708

MPS043 Email: Gerry_Houlder@notes.seagate.com

8001 E. Bloomington Freeway Bloomington, MN 55420-1094

Phone: (303) 684-1407 Mr. Michael Bryan (0) Seagate Technology Fax: (303) 684-1133

2400 Trade Centre Email: mike_bryan@notes.seagate.com

Longmont, CO 80503

Phone: (408) 439-7146 Mr. Daniel (Dan) F. Smith (O) Seagate Technology Fax: (408) 438-4846

4585 Scotts Valley Dr. Email: daniel_f_smith@notes.seagate.com

Scotts Valley, CA 95066-4544

Mr. Toshiyuki Takahara (0) Phone: 81-266-58-4241 Seiko Epson Corp. Fax: 81-226-58-1949

Corporate Res & Dev Email:

3-3-5 Owa Suma-Shi Nagano-Ken 392 Japan

Phone: (503) 578-5824 Mr. Alan Gits (0)

Sequent Computer Systems Fax: 15450 S. Koll Parkway Email:

Beaverton, OR 97006

Dr. Colin Whitby-Strevens (O) Phone: +44 454 611 500 SGS-Thomson/INMOS Fax: +44 454 619 796

1000, Aztec West Email: colinws@bristol.st.com

Almondsbury,

Bristol, BS12 4SQ UK

Mr. Siegfried Kunz (0) Phone: 98-636-46941 Siemens Nixdorf Fax: 98-636-46999

Sys Unit BS2000 Email:

BS 2000 HE PS

W-8000 Munchen 83 W. Germany

Phone: 49-821-804-3602 Mr. Erhard Weiss (0) Siemens Nixdorf Fax: 49-821-804-2910 Depatment: SNI PC SB ESW Email: weiss.abg@sni.de

Burgermeister-Ulrich-St

D-86199 Augsburg Germany

Phone: (714) 573-6824 Fax: (714) 573 Mr. Dave Guss (P) Silicon Systems, Inc.

14351 Myford Rd. Email: dave.guss@tus.ssi1.com

Tustin, CA 92780

Mr. Stephen G. Finch (A) Phone: (714) 573-6808 Fax: (714) 573-6916 Silicon Systems, Inc.

14351 Myford Road Email: steve.finch@tus.ssi1.com

Tustin, CA 92780-7022

Mr. James Ryland (XO) Phone: (410) 965-2166 Social Security Admin Fax: (410) 966-1893 NCC Room 5110 OMC liaison Email: JRYLAND@SSA.SSW.DHHS.GOV

6201 Security Blvd. Baltimore, MD 21234-0001

Sony Electronics, Inc. Phone: (408) 955-5247 Fax: (408) 955-5066

3300 Zanker Rd. MS# SJ-3B2 Email: dennis_pak@asd.sel.sony.com

San Jose, CA 95134

Phone: (415) 955-4535 Mr. Janek Rebalski (A) Sony Electronics, Inc. Fax: (415) 955-5066

3300 Zanker Rd. Email: janek_rebalski@asd.sel.sony.com

San Jose, CA 95134

Mr. Rich Wahler (O) Phone: (516) 435-6174
Standard Microsystems Corp. Fax: (516) 724-1505
200 Kennedy Drive Email:

Email: 300 Kennedy Drive

Hauppauge, NY 11788

Phone: (303) 673-2178 Mr. Erich Oetting (P) Storage Technology Corp. Fax: (303) 673-8196

Email: erich_oetting@stortek.com 2270 South 88th St.

Louisville, CO 80028-0268

Mr. Doug Charnley (A) Storage Technology Corp. 2270 South 88th St. MS 0211 Phone: (303) 661-7271 Fax: (303) 673-8196

Email: doug_charnley@stortek.com

Louisville, CO 80028-0211

Mr. David Peterson (0) Phone: (612) 391-1008 StorageTek Network Sys. Grp Fax: (612) 391-1095 7600 Brooklyn Blvd. Email: dap@network.com

Brooklyn Park, MN 55428

Mr. Robert N. Snively (P) Phone: (650) 786-6694 Sun Microsystems Computer Co Fax: (650) 786-6458
Mail Stop UMPK 12-204 Email: bob.snively@sun.com

901 San Antonio Road Palo Alto, CA 94303

 Mr. Vit Novak (A)
 Phone: (415) 336-2455

 Sun Microsystems, Inc.
 Fax: (415) 968-4873

 Mail Stop 15-46
 Email: vit.novak@sun.com

2550 Garcia Ave.

Mountain View, CA 94043-1100

Mr. John Lohmeyer (P) Phone: (719) 533-7560 Symbios, Inc. Fax: (719) 533-7036

4420 ArrowsWest Dr. Email: lohmeyer@ix.netcom.com

Colorado Springs, CO 80907

Mr. Charles Binford (A#) Phone: (316) 636-8566 Symbios, Inc. Fax: (316) 636-8889

3718 N. Rock Rd. Email: Charles.Binford@Symbios.com

Wichita, KS 67226-1397

Mr. Rod DeKoning (A#) Phone: (316) 636-8842 Symbios, Inc. Fax: (316) 636-8889

3718 N. Rock Rd. Email: rod.dekoning@symbios.com

Wichita, KS 67226

Mr. Dave Evans (A#) Phone: (970) 225-4823 Symbios, Inc. Fax: (970) 225-4859

2001 Danfield Ct. Email: dephoto@goldrush.com

Ft. Collins, CO 80525

Mr. Ralph O. Weber (A) Phone: (972) 503-3205 x228 Symbios, Inc. Fax: (972) 503-2258 Suite 400 Email: roweber@acm.org

12377 Merit Drive Dallas, TX 75251

 Mr. Graeme Weston-Lewis
 (A#)
 Phone: (970) 226-9629

 Symbios, Inc.
 Fax: (970) 226-9686

 2001 Danfield Court
 Email: gwl@symbios.com

Fort Collins, CO 80525

Mr. Patrick Mercer (P) Phone: (510) 226-4215 SyQuest Technology, Inc. Fax: (510) 226-4104

47071 Bayside Parkway Email: patrick.mercer@syquest.com

Fremont, CA 94538-6517

Mr. Jeff Cousins (A) Phone: (303) 938-2966 SyQuest Technology, Inc. Fax: (303) 938-2987

3005 Center Green Dr. #100 Email: jeff.cousins@syquest.com

Boulder, CO 80301

Mr. Erik Solhjell (O) Phone: 11-47-218-9090

Tandberg Data Fax:

A/S Email:

P.O. Box 9 Korsvoll N-0808 Oslo 8 Norway

Mr. Pete Tobias (A#) Phone: (408) 285-9913 Tandem, a Compaq Company Fax: (408) 285-9924

Loc 100-03 Email: tobias_pete@tandem.com

10555 Ridgeview Ct.

Cupertino, CA 95014-0789

Mr. Henry Tseng (A#) Phone: (408) 285-9819

Tandem, a Compaq Company Fax:

10555 Ridgeview Ct. Email: htseng@loc100.tandem.com

Cupertino, CA 95014

Ms Yang Jiao (0) Phone: (213) 727-4836 Fax: (213) 727-4879 TEAC America Email: yjiao@teac.com 7733 Telegraph Rd.

Montebello, CA 90640

Mr. Alan Wetzel (0) Phone: Texas Instruments Fax: M/S 8206 Email:

PO Box 655303 Dallas, TX 75265

Mr. Kevin Gingerich (0) Phone: (972) 480-3378 Texas Instruments, Inc. Fax: (972) 480-3535 P.O. Box 660199 M/S 8710 Email: k-gingerich@ti.com

Dallas, TX 75266-0199

Mr. Rick Hardy (0) Phone: (408) 435-7697 The JPM Company Fax: (408) 435-1109 2135 Ringwood Ave. Email: rhardy@jpmsj.com

San Jose, CA 95131

Memphis, TN 38119

Mr. Steven Walker (0) Phone: (901) 680-5992 Thomas & Betts Fax: (901) 537-8805 Email: walkertnb@aol.com 1555 Lynnfield Rd.

Phone: (714) 461-3861 Mr. Tokuyuki Totani (P) Toshiba America Elec. Comp. Fax: (714) 581-1170

Irvine, CA 92618-1697

35 Hammond Email: Tokuyuki.Totani@taec.toshiba.com

Email: ken.hallam@unisys.com

Phone: (714) 380-5115 Mr. Kenneth J. Hallam (P) UNISYS Corporation Fax: (714) 380-5858

MV 2.01

25725 Jeronimo Road Mission Viejo, CA 92691

Phone: (714) 380-5982 Mr. Arlan P. Stone (A)

UNISYS Corporation Fax: (714) 380-5858

MS 201 Email: arlan.stone@unisys.com

25725 Jeronemo Rd. Mission Viejo, CA 92691

Mr. Dave Wehrman (O) Phone: (313) 426-8847 UNISYS Corporation Fax: (313) 426-8847

11716 Highridge Email: dave.wehrman2@unisys.com

Pinckney, MI 48169

 Mr. Paul D. Aloisi (P)
 Phone: (603) 429-8687

 Unitrode Corporation
 Fax: (603) 429-8963

 MS: 84
 Email: aloisi@unitrode.com

7 Continental Blvd Merrimack, NH 03054

Ms. Francis Terry (A) Phone: (603) 429-8713
Unitrode Corporation Fax: (603) 429-8963
7 Continental Blvd Email: terry@unitrode.com

 $\texttt{Merrimack, NH} \ \texttt{03054-0399}$

 Mr. Eric Swartz (0)
 Phone: (408) 464-4292

 Verisys
 Fax: (408) 464-4250

 2901-B Research Park Dr.
 Email: eric@verisys.com

Soquel, CA 95073

Mr. Michael G. Kaminski (O) Phone: (408) 945-7766 Volex Inc. Fax: (408) 945-4360

835 Sinclair Frontage Road Email: Mike_Kaminski@volex.com

Milpitas, CA 95035

Mr. Jeffrey L. Williams (P) Phone: (507) 286-7589
Western Digital Corporation Fax: (507) 286-7528

1599 N. Broadway Ave. Email: Jeffrey.L.Williams@wdc.com

Rochester, MN 55906

Mr. Jonathan L. Hanmann (A#) Phone: (714) 932-5189
Western Digital Corporation Fax: (714) 932-7097
8105 Irvine Ctr. Dr. Email: jhanmann@dt.wdc.com
Irvine, CA 92618

Mr. Gregory Kapraun (A) Phone: (507) 286-7763
Western Digital Corporation Fax: (507) 286-7528

1599 N. Broadway Email: Gregory.D.Kapraun@wdc.com

Rochester, MN 55906

Ms. Vicki Pipal (0) Phone: (507) 286-7710

Western Digital Corporation Fax:

1509 Broadway Email: pipal@wdroc.com

Rochester, MN 55906

Mr. Doug Piper (P) Phone: (803) 967-1751 Woven Electronics Fax: (803) 963-1761

PO Box 189 Email: doug.piper@internetmci.com

Mauldin, SC 29662

Eden Prairie Mn 55344

Mr. E.J. Mondor (A) Phone: (803) 967-1739
Woven Electronics Fax: (803) 963-1761

PO Box 189 Email: 549.9900@mcimail.com Mauldin, SC 29662

 Mr. Michael Chalgren (0)
 Phone: (612) 828-5984

 Xiotech Corporation
 Fax: (612) 828-5990

#200 Email: mchalgren@xiotech.com

6509 Flying Cloud Drive

Mr. Arnold Limjoco (O) Phone: (408) 456-0797 x134

Yamaichi Electronics Fax: (408) 456-0799
2235 Zanker Rd. Email: arnold.l@yeu.com

2235 Zanker Rd. Email: arnold.l@yeu.com San Jose, CA 95131

T10 Document Database on 1998/05/13 at 10:34:00 -- Enclosure (3)

T10/98-001R0 Date: 1997/12/05 Author: J. Lohmeyer Mailing: 1998_1 Agenda for T10 Meeting #26 (May '98)

T10/98-002R0 Date: 1997/12/05 Author: J. Lohmeyer Mailing: 1998_1 T10 Project Summary - Mar '98

T10/98-003R0 Date: 1997/12/05 Author: J. Lohmeyer Mailing: 1998_1 Jeopardy letter for Mar '98 meeting

T10/98-004R0 Date: 1997/12/05 Author: J. Lohmeyer Mailing: 1998_1 Letter Ballot on Forwarding SPI-2 to First Public Review

T10/98-005R0 Date: 1998/01/13 Author: J. Lohmeyer Mailing: 1998_1 Results of letter ballot 97-038 on forwarding SBP-2

T10/98-006R0 Date: 1998/01/13 Author: J. Lohmeyer Mailing: 1998_1 Results of letter ballot 98-004 on forwarding SPI-2

T10/98-007R0 Date: 1998/01/26 Author: J. Lohmeyer Mailing: 1998_1 Ltr. to Ken Bush (Compaq) re Security Patents

T10/98-101R0 Date: 1997/12/02 Author: Dean Wallace Mailing: 1998_1 Universal Backplane Annex

T10/98-102R0 Date: 1997/12/07 Author: L. Lamers Mailing: 1998_1 Minutes of Protocol Study Group - 12/97

T10/98-103R0 Date: 1997/12/04 Author: Craig McCombs Mailing: 1998_1 Predicting Performance Benefits of Packtized SCSI

T10/98-104R0 Date: 1997/12/04 Author: Drew Wilson Mailing: 1998_1 U3 SCSI Performance

T10/98-105R0 Date: 1997/12/05 Author: George Penokie Mailing: 1998_1 SCSI Usable Bandwidth - Fixed Select Times; Varying Data Rate

T10/98-106R0 Date: 1998/01/01 Author: Gerry Houlder Mailing: 1998_1 Add PLPB feature to mode page 19h

T10/98-106R1 Date: 1998/04/24 Author: Gerry Houlder Mailing: 1998_2 Add PLPB feature to mode page 19h

T10/98-107R0 Date: 1997/12/12 Author: John Lohmeyer Mailing: 1998_1 Document Retention Policy

T10/98-107R1 Date: 1998/03/19 Author: John Lohmeyer Mailing: 1998_1 Document Retention Policy

T10/98-108R0 Date: 1998/01/14 Author: George Penokie Mailing: 1998_1 Comment resolution on SPI-2 letter ballot

T10/98-108R1 Date: 1998/01/14 Author: George Penokie Mailing: 1998_1 Comment resolution on SPI-2 letter ballot

T10/98-108R2 Date: 1998/03/18 Author: George Penokie Mailing: 1998_1 Comment resolution on SPI-2 letter ballot

T10/98-109R0 Date: 1998/01/23 Author: Peter Johansson Mailing: 1998_1 Comment Resolution on SBP-2 letter ballot - Revision 3

T10/98-109R1 Date: 1998/02/28 Author: Peter Johansson Mailing: 1998_1 Comment Resolution on SBP-2 letter ballot - Revision 3

T10/98-109R2 Date: 1998/03/21 Author: Peter Johansson Mailing: 1998_1 Comment Resolution on SBP-2 letter ballot - Revision 3

T10/98-110R0 Date: 1998/01/15 Author: Ron Roberts Mailing: 1998_1 Minutes of MMC-2 Working Group - 1/98

T10/98-111R0 Date: 1998/01/19 Author: J. Lohmeyer Mailing: 1998_1 Minutes of SPI-3 Physical SG 1/22/98

T10/98-112R0 Date: 1998/02/02 Author: T. Coughlan Mailing: 1998_1 Writable Device Identifiers

T10/98-113R0 Date: 1998/01/21 Author: V. Bastiani Mailing: 1998_1 Initial test results on dual-edge clock signals

T10/98-114R0 Date: 1998/01/21 Author: W.C. Gintz Mailing: 1998_1 Hot Plugging on Ultra3 Busses

T10/98-115R0 Date: 1998/01/30 Author: Ralph Weber Mailing: 1998_1 Sundry Minor Enhancements for SPC-2

T10/98-115R1 Date: 1998/02/10 Author: Ralph Weber Mailing: 1998_1 Sundry Minor Enhancements for SPC-2

T10/98-115R3 Date: 1998/03/17 Author: Ralph Weber Mailing: 1998_1 Sundry Minor Enhancements for SPC-2

T10/98-116R0 Date: 1998/02/04 Author: Ron Roberts Mailing: 1998_1 MMC-2 Features and Parameters Clause

T10/98-117R0 Date: 1998/02/28 Author: Peter Johansson Mailing: 1998_1 Comment Resolution on SBP-2 letter ballot - More on Revision 3

T10/98-117R1 Date: 1998/02/28 Author: Peter Johansson Mailing: 1998_1 Comment Resolution on SBP-2 letter ballot - More on Revision 3

T10/98-118R0 Date: 1998/01/21 Author: Darrell Redford Mailing: 1998_1 RBC Generic Command Set Issues

T10/98-118R1 Date: 1998/03/03 Author: Darrell Redford Mailing: 1998_1 RBC Generic Command Set Issues

T10/98-119R0 Date: 1998/02/11 Author: Pete McLean Mailing: 1998_1 Minutes of RBC working group - 2/98

T10/98-120R0 Date: 1998/02/28 Author: Peter Johansson Mailing: 1998_1 Comment Resolution on SBP-2 letter ballot: Isochronous or Not?

T10/98-121R0 Date: 1998/02/20 Author: Greg Shue Mailing: 1998_1 Serial Bus Protocol 2 - Programmable Reconnect Interval Extension

T10/98-121R1 Date: 1998/03/30 Author: Greg Shue Mailing: 1998_1 Serial Bus Protocol 2 - Programmable Reconnect Interval Extension

T10/98-121R2 Date: 1998/05/08 Author: Greg Shue Mailing: 1998_2 Serial Bus Protocol 2 - Programmable Reconnect Interval Extension

T10/98-122R0 Date: 1998/03/02 Author: Ron Roberts Mailing: 1998_1 Proposal Clause 4 MMC-2

T10/98-123R0 Date: 1998/03/15 Author: Jeff Williams Mailing: 1998_1 Removal of Tag Checking Requirement in SPI-2

T10/98-123R1 Date: 1998/03/17 Author: Jeff Williams Mailing: 1998_1 Removal of Tag Checking Requirement in SPI-2

T10/98-124R0 Date: 1998/03/13 Author: Robert Snively Mailing: 1998_1 SPC-2, Persistent Reservation: Additional proposed corrections

T10/98-124R1 Date: 1998/03/13 Author: Robert Snively Mailing: 1998_2 SPC-2, Persistent Reservation: Additional proposed corrections

T10/98-125R0 Date: 1998/03/26 Author: Weber/Lohmeyer Mailing: 1998_1 Minutes of SPI-3 Working Group - 3/98

T10/98-125R1 Date: 1998/03/30 Author: Weber/Lohmeyer Mailing: 1998_1 Minutes of SPI-3 Working Group - 3/98

T10/98-126R0 Date: 1998/03/26 Author: Weber/Lohmeyer Mailing: 1998_1 Minutes of SCSI Working Group - 3/98

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T10/98-128R0 Date: 1998/03/13 Author: Robert Snively Mailing: 1998_1 New Log Page Requirements

T10/98-128R1 Date: 1998/04/08 Author: Robert Snively Mailing: 1998_2 New Log Page Requirements

T10/98-128R2 Date: 1998/04/08 Author: Robert Snively Mailing: 1998_2 New Log Page Requirements

T10/98-129R0 Date: 1998/03/14 Author: W.C. Gintz Mailing: 1998_1 Hot Plugging on U3 Busses (Second Report)

T10/98-130R0 Date: 1998/03/18 Author: Keith Parker Mailing: 1998_1 SCSI Socket Services (SSS) Review 98-03-18

T10/98-131R0 Date: 1998/03/16 Author: Greg Kapraun Mailing: 1998_1 0.5pF Balance Capacitance

T10/98-132R0 Date: 1998/03/16 Author: W. Bridgewater Mailing: 1998_1 Bias Reduction Proposal - 3/98

T10/98-133R0 Date: 1998/03/16 Author: Richard Moore Mailing: 1998 1

Presentation on QAS changes

Presentation on QAS changes	
T10/98-134R0 Date: 1998/03/16 Author: Dean Wallace Termination Power Requirements	Mailing: 1998_1
T10/98-135R0 Date: 1998/03/19 Author: Bill Ham Section of EPI describing SCSI switches	Mailing: 1998_1
T10/98-136R0 Date: 1998/03/10 Author: Gene Milligan ISO/IEC 8482 issues	Mailing: 1998_1
T10/98-137R0 Date: 1998/03/19 Author: Steve Finch Project Proposal for Serial Bus Isochronous Protocol Stand	Mailing: 1998_1 lard
T10/98-138R0 Date: 1998/03/19 Author: Pete McLean Minutes of SBP-2 Working Group - 3/98	Mailing: 1998_1
T10/98-139R0 Date: 1998/03/19 Author: Pete McLean Minutes of RBC Working Group - 3/98	Mailing: 1998_1
T10/98-140R0 Date: 1998/03/19 Author: T. Coughlan Clarification of Persistant Reservation	Mailing: 1998_1
T10/98-141R0 Date: 1998/03/19 Author: Ron Roberts Minutes of MMC-2 Working Group - 3/98	Mailing: 1998_1
T10/98-142R0 Date: 1998/03/17 Author: John Scheible Common Database Record Interchange Structure	Mailing: 1998_1
T10/98-143R0 Date: 1998/03/19 Author: Tom Lagatta Storage Networking Industry Association Presentation	Mailing: 1998_1
T10/98-144R0 Date: 1998/01/14 Author: George Penokie CRC on existing SCSI parallel protocol	Mailing: 1998_2
T10/98-144R1 Date: 1998/04/14 Author: George Penokie CRC on existing SCSI parallel protocol	Mailing: 1998_2
T10/98-145R0 Date: 1998/04/19 Author: R. Weber Which port changes for SPC-2	Mailing: 1998_2
T10/98-146R0 Date: 1998/05/12 Author: Lohmeyer/Weber Minutes of SPI-3 Working Group - 5/98	Mailing: 1998_2
T10/98-147R0 Date: 1998/05/12 Author: Weber/Lohmeyer Minutes of SCSI Working Group - 5/98	Mailing: 1998_2
T10/98-148R0 Date: 1998/05/12 Author: Weber/Lohmeyer Minutes of T10 Plenary Meeting #26	Mailing: 1998_2
T10/98-149R0 Date: 1998/04/22 Author: N. Wanamaker Tape Error Recovery in Queued Environments	Mailing: 1998_2
T10/98-150R0 Date: 1998/05/02 Author: Ed Gardner Simplified Parallel SCSI CRC Proposal	Mailing: 1998_2
T10/98-151R0 Date: 1998/05/01 Author: Hideki Hosoya Optical Memory Card Read/Write Command Set for T10 review	Mailing: 1998_2

T10/98-152R0 Date: 199 Presentation on Fast-80		Author:	Gene Milligan	Mailing:	1998_2
T10/98-153R0 Date: 199 Fast-80 details	98/05/02	Author:	Gene Milligan	Mailing:	1998_2
T10/98-154R0 Date: 199 CRC Proposal	98/05/04	Author:	Bruce Leshay	Mailing:	1998_2
T10/98-155R0 Date: 199 Hot Swap Technical Issu		Author:	Richard Uber	Mailing:	1998_2
T10/98-156R0 Date: 199 Full Length Cable & 15			Wally Bridgewater an	Mailing:	1998_2
T10/98-157R0 Date: 199 Testing for Old Expande		Author:	James McGrath	Mailing:	1998_2
T10/98-158R0 Date: 199 Communicating with New		Author:	James McGrath	Mailing:	1998_2
T10/98-159R0 Date: 199 Presentation on QAS	98/05/04	Author:	Larry Lamers	Mailing:	1998_2
T10/98-160R0 Date: 199 Leading Pulse Tests Usi			Dan Smith nal	Mailing:	1998_2
T10/98-161R0 Date: 199 Cable Skew Tests Using			Dan Smith ls	Mailing:	1998_2
T10/98-162R0 Date: 199 Setup and Hold Tests Us		Author: a2 Data/RI	Dan Smith EQ Signals	Mailing:	1998_2
	sing Ultra	a2 Data/RI Author:	EQ Signals Gerry Houlder	Mailing: Mailing:	
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Setup and Hold Tests Us T10/98-163R0 Date: 199 SCSI Extensions for Net T10/98-164R0 Date: 199 Command behavior under T10/98-165R0 Date: 199	88/05/05 28/05/05 28/05/05 28/05/05 28/05/05 Tape	Author: Author: Author: Author:	EQ Signals Gerry Houlder rage Robert Snively Neil Wanamaker	Mailing:	1998_2 1998_2 1998_2
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T10/98-171RO Date: 1998/05/06 Author: Peter Johansson Mailing: 1998_2 SBP-2 Document History

T10/98-172R0 Date: 1998/05/07 Author: Stewart Wyatt Mailing: 1998_2 Minutes of Joint T10/T11.3 Meeting on Fibre Channel Tape - 5/5/98

T10/98-173R0 Date: 1998/05/11 Author: Ralph Weber Mailing: 1998_2 SAM-2 Rev 6 Notes

T10/98-174R0 Date: 1998/05/08 Author: Hank Herrmann Mailing: 1998_2 Dual Conductivity Contact