Accredited Standards Committee*
National Committee for Information Technology Standards (NCITS)

To: Membership of T10

From: Ralph Weber, Secretary T10
               John Lohmeyer, Chair T10

Subject: Minutes of T10 Plenary Meeting #22
               Colorado Springs, CO -- July 17, 1997

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Agenda

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    8.20 Multimedia Command Set - 2 (MMC-2) Status {Project 1228-D} [Roberts]
    8.21 SCSI Primary Commands - 2 (SPC-2) Status {Project 1236-D} [Weber]
    8.22 SCSI-3 Transport *via* SBP-2 Status (STS) {Project 1240-D} [Johansson]

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Results of Meeting

1. Opening Remarks

John Lohmeyer, the T10 Chair, called the meeting to order at 1:30 p.m., Thursday July 17, 1997. He thanked Symbios Logic for hosting the meeting, allowing him to not travel this time.

John said that NCITS Subgroup Membership forms and the T10 Mailing Subscription form were available from Larry Lamers or himself at the head 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:

> 10.1.2 Reducing Bus Set Delay from 1800 nsec to 1600 nsec in SPI-2 [Ham]
> 10.1.3 Recommended Changes in the Fully Integrated SPI-2 [Penokie/Ham]
> 10.1.4 Accept 97-203r2 (Warning/PFA ASC Reporting Selection) for SPC-2 [Penokie]
> 10.1.5 Accept 97-219r0 (REPORT LUNS Commands Requirements) for SAM-2 and SPC-2 [Oetting]
> 10.1.6 Accept 96-267r4 (READ ELEMENT STATUS w/o RESERVATION CONFLICT) for SMC [Penokie]
> 10.1.7 Accept 97-222r1 (Broaden Medium Changer Definition) for SMC [Oetting]
> 10.4 Initiation of a Letter Ballot on Fowarding SCC-2 Rev 3 to 1st PR [Penokie]
> 10.5 Enclosure Profile Project Plans [DeKoning/Weber]
> 11.2.1 Fast-20
> 11.2.2 Re-Engineering Response
> 11.2.3 Other Projects for Initiation

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

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

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.

The Chair said he had sent letters to 18 people from 8 organizations informing them that their membership was in jeopardy due to non-attendance (see 97-018r0) and that their membership would be terminated if they did not attend this meeting. The organizations in jeopardy were: Ciprico Inc., CMD Technology, Distributed Processing Tech., Fujitsu, Hitachi Cable Manchester, NEC Electronics, Sony Electronics, and SyQuest Technology. John noted that both Hitachi Cable Manchester and Sony Electronics were not actually in jeopardy; they were sent jeopardy letters due to errors in John's attendance database. He apologized for the errors.

All of the organizations were present except:

NEC Electronics,

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).

The following organizations applied for and received membership or a reinstated membership at this meeting:

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Diogenes SCSI
FSI Consulting Services
LSI Logic Corp.
Methode Electronics, Inc.

The T10 membership during the meeting was 54 organizations up from 51 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 Meeting San Diego, CA (T10/97-177r1)

The minutes were approved as written.

5. Document Distribution

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

Larry Lamers requested that all documents for the next mailing be in his hands in electronic format by 10:30 a.m. on Thursday July 24, 1997. Documents received after this time will go into a subsequent mailing.

Larry Lamers reminded the committee of the requirements for document submission to be included in the committee mailing. Since T10 meets its document archiving requirements by including the NCITS Secretariat on the mailing list, documents included in the mailing must be suitable for archiving. This means that native-format electronic originals with proper identification must be submitted. Document T10/95-147 contains the list of requirements for submissions. Document T10/95-361r0 contains instructions for expeditious delivery of documents to Larry.

The electronic copies can be sent directly to Larry by email (at ljlamers@corp.adaptec.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 email to Larry (at ljlamers@ix.netcom.com) informing him of the exact file name and location of the file.

John noted that the SCSI Reflector has been renamed the T10 reflector because T10 does more than just SCSI. Attempts to subscribe, unsubscribe, or post to the SCSI reflector will be automatically directed to the T10 reflector.

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 email 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 Logic 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 available on the SCSI BBS in file DR.TXT and at ftp://ftp.symbios.com/pub/standards/io/t10/dr.txt.

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.

Annex I contains the ANSI patent policy. Amy Marasco manages patent issues for ANSI and can be contacted at amarasco@ansi.org or 212-642-4954.

George Penokie asked about the handling of the IBM patent disclosure related to SCC. Should the process be repeated for SCC-2? John Lohmeyer stated that repeating the process would be the best thing to do, to be sure everything goes smoothly with ANSI.

7. Review of Old Action Items

208)   Bob Snively will forward 97-101r2 to IEEE under cover of a letter authorized by the T10 chair, and copy the chair and the committee document archive. *Complete.*
219)   Gene Milligan will submit MMC to ISO. *Complete.*
220)   Gene Milligan will submit SPIamend to ISO. *Complete.*
221)   Gene Milligan will submit SPC rev 11a to ISO. *Complete.*
222)   Gene Milligan will submit SBC to ISO. *Complete.*
223)   Gene Milligan will submit the SCAM patent letter through the proper channels to ISO/IEC and supply a replacement patent statement for SPI to ISO/IEC. *Complete.*
225)   Larry Lamers will prepare a list of accepted proposals for integration in SPI-2. *Overtaken by events.*
226)   Gene Milligan will prepare SBC revision 8a. *Complete.*
227)   John Lohmeyer will forward SBC revision 8a to NCITS for further processing, if no public review comments are received. *Sent 8b instead, correcting two typographical errors.*
228)   Larry Lamers will incorporate the pre-edit comments into SPI Amendment #1. *Carryover.*
229)   John Lohmeyer will forwarded the revised SPI Amendment #1 to NCITS for management review. *Carryover.*
230)   John Lohmeyer will forward the revised SES to NCITS for management review. *Carryover.*

8. Subgroup and/or 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.

8.2 T10.1 Task Group Report [Lamers]

Larry Lamers reported that the T10.1 Task Group has completed its work. John Scheible will continue working with the ANSI editor to get the standards ready for final publication. Larry announced that a motion to disband T10.1 will be made later in this meeting.

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

Larry Lamers reported that he has not yet incorporated the edits agreed to at the last meeting. He promised to attend to this as soon as his schedule permits.

8.4 SCSI-3 Interlocked Protocol (SIP) Status {Project 856-D} [Penokie]

George Penokie reported that he received the publication copy of SIP last week. John Lohmeyer congratulated him on completing SIP. (This item will be dropped from future agendas.)

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

Bill Dallas was unable to attend, but provided the following electronic report (read to the committee by John Lohmeyer):

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    What is in Revision 2
    - Converted document from Word Perfect to MS Word
    - Defined CCB formats for CAM-3
    - XPT services (callable services that provide information or an action).
    - Added dynamic topology methodology (SSA, FC etc.).  This functionality allows for
        the tracking and resolution of changes in the SCSI topology and the
        synchronization of (Device address changes).
    - Device identification and the association of multiple paths to a device (multi-
        initiator)
    - Added Async events

    Planned changes for Revision 3
    - Place all structure definitions into tables
    - Place all data values and bit definitions into tables
    - Change where applicable for SAM terminology
    - Add peripheral driver model
    - Add Target model
    - Update definitions
    - Add notes to explain reasons why certain functions/services are defined (e.g.
        prevents race conditions on SMP systems).
    - Add diagrams to show data structure relationships in EDT
    - Review document for terminology mismatches and change where applicable
    - Review sentence structure and change where applicable
    - Review for design flaws and change where applicable
    - Added methodology to obtain interconnect status (up, down, initializing )
    - Update undefined cross references in document - (e.g. refer to Clause XX to refer to
        Clause 9.1.2)
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The committee discussed what will be done with the CAM-3 standard. Concerns were expressed about continuing the project as a standards effort, given the less-than-enthusiastic industry adoption of CAM and CAM-3. The possibility of changing to a technical report was mentioned, but not fully investigated. John advocated waiting until September to take any actions since Bill was not present.

8.6 SCSI-3 Serial Bus Protocol (SBP) Status {Project 992-D} [Roberts]

John Lohmeyer reported that the NCITS letter ballot recommending withdrawal of SBP will close during August. The public review concerning the withdrawal passed. Gene Milligan reported that SC25 secretariat has been instructed to withdraw the project.

8.7 SCSI-3 Primary Commands (SPC) Status {Project 995-D} [Weber]

John reported that SPC has been approved for publication by the ANSI Board of Standards Review. Ralph Weber reported that he has received a copy of SPC with final ANSI editorial mark-ups and is scheduled to discuss the edits with Harvey Rosenfeld on July 17. Ralph reported that his review of the edits has uncovered no changes in the technical portions of the standard. Numerous changes have been marked in the front matter.

It was noted that Annexes B and C contain references to obsolete World Wide Web sites, both x3.org and x3t10. Ralph was instructed to consult with Harvey Rosenfeld about the possibility of correcting these references before final publication.

8.8 SCSI-3 Block Commands (SBC) Status {Project 996-D} [Milligan]

John Lohmeyer and Gene Milligan reported that revision 8b had been generated and sent to NCITS. Revision 8b contained corrections for two typographical errors: 1) in Table 74, RDC was changed to RCD, and 2) in Table 98, ISO/IEC 100090 was change to ISO/IEC 10090.

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

John Lohmeyer announced that Ted Lappin had resigned as technical editor for SSC, due to the changed interests accompanying his new job. Gary Stephens has taken over technical editor duties for SSC. The SSC/SMC working group undertook some work on comments resolution work on SSC, but comment resolution is not yet complete. John answered some procedural questions about the comments resolution process for Gary Stephens.

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

Erich Oetting reported on the activities of the SSC/SMC working group meeting (minutes in 97-220). Revision 8 of SMC will be in the next committee mailing. Erich asked John Lohmeyer to conduct a T10 letter ballot vote on SMC rev 8 for forwarding to first public review.

8.11   Multimedia Command Set (MMC) Status {Project 1048-D} [Roberts]

John Lohmeyer announced that MMC second public review will close on July 22, 1997.

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

George Penokie reported that SPI-2 revision 12, the first fully integrated SPI-2 draft (per instructions from the committee), has been completed and made available on the ftp site. Services are out, phases are in. The structure of SPI-2 is much more similar to SCSI-2 (as opposed to SIP). George informed the committee that he exercised a heavy editing pencil while converting the Fairness Algorithm proposal to a SPI-2 annex. George advised anyone materially affected by SPI-2 to review revision 12 (or revision 13, whichever is easier to find) very carefully. He noted that a very small list of issues remain to be resolved.

George expressed a goal of having SPI-2 revision 13 ready for the mailing, but made no guarantees.

Gene Milligan asked when the complete SPI-2 document should be stabilized. George recommended that the stabilization vote should be taken at the next committee meeting.

George announced that the editor's meeting, previously discussed in the working group (minutes 97-210), may been changed to a telephone conference. Some concerns were raised about the use of a teleconference and the San Jose meeting site was offered to anyone wishing to be in a face-to-face meeting. George was uncertain about whether he would be at the San Jose meeting site, or attend by telephone. George announced that the date of the meeting is August 27, 1997, unchanged from the previously agreed date.

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

Bill Ham reported on the activities on EPI in the general working group (minutes 97-210). He thanked those who had helped make progress in the EPI development. He stated the belief that revision 10 will be ready for the next committee mailing.

Bill also described the work on latching and counting (see also 97-210). He noted that the work represents an important addition to the description of SCSI. However, he also expressed the belief that latching and counting is not an EPI topic. Bill felt certain that a home would be found for the latching and counting information, but did not say where that home would be.

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

Bob Snively reported the outstanding work items for FCP-2 are mode page changes proposed by Ed Gardner and Gerry Houlder and approved by the committee, as well as whatever may result from the tape support discussions currently under way in both T10 and T11. He thanked George for handling the interface between

protocol standards and SAM (as part of the SPI-2 work). He reported that no work has been done on the actual development of a FCP-2 draft document.

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

Peter Johansson gave an oral report to the committee and provided the following electronic report:

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Since the May T10 plenary in Natick, MA, the SBP-2 ad hoc working group has met once,
June 16, 1997, in San Jose, CA. Most of the discussion was on isochronous issues:
addition of new modes, expansion of the model, the need to accommodate consumer
devices as well as disks, etc.

The working group recommended that 97-195r0, "Configuration ROM, power reset and
security", be taken to the Colorado Springs plenary along with previously recommended
97-158r2, "Unrestricted page tables".

The following meeting schedule was approved:
July 22 (San Jose, CA) Editorial review session
August 19 (Longmont, CO) Working group
September 8 - 9 (Nashua, NH) Working group during T10 week
October 7 (Irvine, CA) Working group

Comment on SBP-2 isochronous is solicited from other segments of the industry, such as
consumer electronics. The working group believes that existing isochronous features
are adequate for disks but that extensions are needed for other targets.
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Peter reported that SBP-2 revision 2e will be provided for the committee mailing.

8.16 SCSI Architecture Model - 2 (SAM-2) {Project 1157-D} [Monia]

Charles Monia was unable to attend. Prior to the meeting, he sent John Lohmeyer an e-mail indicating that the SAM-2 status is unchanged since May.

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

Bob Snively reported that the ANSI edits have been given to a professional editor, along with notes on typo-graphical errors that he found. Once the edits have been incorporated and reviewed by Bob, the document will be ready for NCITS letter ballot.

8.18 High Availability Profile (HAP) Technical Report {Project 1224-DT} [Hagerman]

Doug Hagerman reported that no progress has been made. He plans to do the substantial amount of outstanding editing work soon.

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

George Penokie reported that SCC-2 revision 2 was distributed and placed on the ftp site about a month ago. George has prepared SCC-2 revision 3 for the committee mailing. George requested that John Lohmeyer conduct a T10 letter ballot to approve forwarding SCC-2 revision 3 to first public review.

8.20 Multimedia Command Set - 2 (MMC-2) Status {Project 1228-D} [Roberts]

Ron Roberts gave an oral report to the committee and provided the following electronic report for the minutes:

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Significant changes to the command section of MMC-2:
-Made the PLAY CD command obsolete, the next version of MMC(MMC III) the command will
    be removed.
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     -Made the READ BUFFER CAPACITY command obsolete, the next version of MMC(MMC III) the
         command ill be removed.
     -Made the READ CD/DVD RECORDED CAPACITY command obsolete, the next version of MMC(MMC
         III) the command will be removed.
     -Made the READ HEADER command obsolete, the next version of MMC(MMC III) the command
         will be removed.
     -Made the READ MASTER CUE command obsolete, the next version of MMC(III) the command
         will be removed.
     -Made the SET C/DVD SPEED Command obsolete, the next version of MMC(III) the command
         will be removed.
     -The SYNCHRONIZE CACHE Command's name has been changed to FLUSH CACHE.

     -The following purposed MMC command OP codes will be recovered:
                     48              Play Track Index
                     49              Play Track Relative
                     B8 & BB        Set Speed
                     AA              Write CD
                     A2              Write CD MSF

     -The following new OP code assignments are requested:
                     OP Code        Command Name                    Device Class
                     46              Get Configuration               All Devices
                     4A              Get Event Status Notification   All Devices
                     A2              Send Event                      All Devices
                     23              Read Format Capacities          D/W/R/O
                     A3              Send Key                        R
                     A4              Report Key                      R
                     A7              Set Read Ahead                  R
                     AC              Report Performance              D/W/R/O
                     AD              Send DVD Structure              R
                     B6              Set Streaming                        D/R

     -Rename the CD devices class to C/DVD.
     -Ask for a new device class, X.
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The group discussed a NDA that covers all of Fuji-II, which will be folded in MMC-2 as soon as the NDA expires.

Based on a straw vote was taken at the MMC working group that passed 8:0:1, Ron recommended that T10 consider the following proposal:

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    Those areas that are used by MMC-2 that are different/new from SPC-2 be included into
    the SPC-2 effort and not included in the MMC-2 document. These include but are not
    limited to:

    • Request Sense              • Power Management
    • Inquiry                    • Time-out
    • Test Unit Ready            • Get Event Status Notification
    • Mode Sense/Select          • Persistent Prevention
    • Write Buffer               • Send Event
    • Error Reporting            • SMART
    • Man./Opt. Command def.     • Get Configuration(Morph)

    The MMC group will bring proposals for these to the SPC-2 group.  In addition SBC will
     no longer be a normative reference for MMC-2.
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The committee discussed the MMC working group proposal. After a few details of the proposal were presented, the committee was favorably disposed. Details of meeting schedules and timeline concerns were discussed without specific resolution. [Secretary's Note: The meeting schedule issues were resolved later in this meeting, when the full meeting schedule plan was discussed.]

8.21 SCSI Primary Commands - 2 (SPC-2) Status {Project 1236-D} [Weber]

Ralph Weber reported that he has converted all clauses up to and including the REQUEST SENSE command to FrameMaker for SPC-2. Conversion of the ASC/ASCQ table was particularly interesting. The next serious challenge will be converting the informative tables in annexes A and B. Ralph also noted plans to honor a request to switch from Arial to Helvetica font.

8.22 SCSI-3 Transport *via* SBP-2 Status (STS) {Project 1240-D} [Johansson]

Peter Johansson reported no activity since the last plenary meeting.

Peter solicited comments from the T10 committee so that he might reach closure on STS. Bob Snively discussed the overview of the purpose of STS vis-a-vis SBP-2 with Peter. As the discussion became too extensive, Peter suggested that a working group discussion time be scheduled. This prompted an inconclusive discussion of the meeting roadmap. [Secretary's Note: The meeting schedule issues were resolved later in this meeting, when the full meeting schedule plan was discussed.]

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

John reported that SSS has been assigned NCITS project number 1246-D. Keith Parker described his plan to leverage some academic development work to get drivers written in support the SSS project and review the draft document as it is developed.

9. Old Business

9.1 Resolution of SSC Letter Ballot Comments (97-020r1) [Stephens]

Action on this item was deferred to the next meeting. John announced that the incomplete draft comments resolution document is 97-204r0. Gary assured the committee that a r1 draft will be forthcoming.

9.2 Project Proposal for command definition for mass storage on 1394 (97-162r0) [McLean]

Pete McLean reported that after three intense hours of debate in a highly polarized meeting, no action can be proposed on this topic at this meeting. Action on this item was deferred to the next meeting.

9.3 Request for Interpretation of "multiple-byte field" [Monia]

John Lohmeyer reported that Charles Monia had sent him an email requesting that this item be dropped.

10. New Business

10.1 Actions on Working Group Recommendations

10.1.1 Additions to Stabilized Portions of SBP-2 [Johansson]

Based on the unanimous recommendation of the SBP-2 working group, Peter Johansson moved that, subject to editorial corrections, 97-158r2, "Enhanced page tables", and 97-195r0, "Configuration ROM, power reset and security", be incorporated into the previously stabilized portions of SBP-2, and themselves be stabilized. Mark Evans seconded the motion. Peter carefully described the proposed changes and discussed them with the committee. The motion passed 40:1:1:12=54. Gene Milligan stated his negative vote was based on concerns about documenting the same information in two places, a property of one of the proposals.

10.1.2 Reducing Bus Set Delay from 1800 nsec to 1600 nsec in SPI-2 [Ham]

John Lohmeyer reviewed the history of the proposal (97-223) - reducing the Bus Set Delay from 1800 nsec to 1600 nsec - concluding with the report that the working group unanimously recommended the proposal. Ed Gardner moved that the maximum Bus Set Delay be reduced from 1800 nsec to 1600 nsec throughout in SPI-2. Bill Ham seconded the motion. The motion, which affected the stabilized portion of SPI-2, passed 40:0:0:14=54.

10.1.3 Recommended Changes in the Fully Integrated SPI-2 [Penokie/Ham]

George Penokie described how the technical editor incorporated the SCSI-2 values for single ended and high-voltage differential cable impedance values in SPI-2. He noted that the working group felt this was over jealous integration of SCSI-2 information in SPI-2. George Penokie moved that the Fast-5 (or Slow) characteristic impedance values be removed from SPI-2. Gary Stephens seconded the motion. George stated his belief that the change does not affect the stabilized portion of SPI-2. The motion passed 40:0:0:14=54.

George reported that the working group asked that a minimum conductor size of 28 AWG be added to SPI-2 for 25 meter cable lengths at Fast-40 speeds. He note that the stabilized SPI-2 currently specifies only a minimum of 30 AWG cable. The committee discussed the exact wording of the cable length value. With committee concerns in mind, George Penokie moved that the stabilized portion of SPI-2 be modified to include a minimum conductor size of 28 AWG for Fast-40 cable lengths greater than 12 meters. Paul Aloisi seconded the motion. The motion passed 39:2:4:9=54. Kirk Rogers stated that his negative vote was based on a belief that further consideration of the effects of the change is needed. Bill Ham stated that he felt that topic should be remanded to the working group.

10.1.4 Accept 97-203r2 (Warning/PFA ASC Reporting Selection) for SPC-2 [Penokie]

Based on unanimous recommendation of the working group, George Penokie moved that 97-203r2 be accepted for inclusion in SPC-2 at the editor's earliest convenience. Gene Milligan seconded the motion. The motion passed 30:1:3:20=54. Devon Worrell stated that his negative vote was based on the unnecessary complexity introduced by the proposal.

10.1.5 Accept 97-219r0 (REPORT LUNS Commands Requirements) for SAM-2 and SPC-2 [Oetting]

Based on the unanimous recommendation of the working group, Erich proposed that the committee approve 97-219r0 for inclusion in SPC-2. The effect of the proposal is to make REPORT LUNS mandatory for devices that have multiple LUNs. Peter Johansson questioned the interaction of this proposal at the ongoing work of the SBP-2 and MMC working groups. Based on the earlier decision to review a large collection of SPC-2 changes proposed by the MMC working group, consideration of this proposal was remanded to the joint SCSI/MMC working group meeting (Wednesday morning of the September T10 week).

10.1.6 Accept 96-267r4 (READ ELEMENT STATUS w/o RESERVATION CONFLICT) for SMC [Penokie]

Based on the unanimous recommendation of the SSC/SMC working group, Erich Oetting moved that 96-267r4 be accepted for inclusion in SMC. George Penokie seconded the motion. The motion passed 35:0:2:13=54.

10.1.7 Accept 97-222r1 (Broaden Medium Changer Definition) for SMC [Oetting]

Erich Oetting presented 97-222r1, a proposal that allows some specialized devices to use the SMC model. Bill Ham questioned the grammar of the proposal and the proposal was revised, producing 97-222r2. Based on the unanimous recommendation of the SSC/SMC working group, Erich Oetting moved that 97-222r2 (r1 as revised by the committee) be accepted for inclusion in SMC. Connie Kephart seconded the motion. The motion passed 33:0:2:19=54.

10.2 Recommendation to disband T10.1 and assign its projects to T10 [Lamers]

Larry Lamers moved that T10 recommend to NCITS that T10.1 be disbanded and its projects be assigned to T10. John Lohmeyer seconded the motion. Gene Milligan asked if T10.1 could be put in maintenance mode. John reported that OMC had stated that maintenance mode is appropriate for Technical Committees but not for Task Groups. The committee briefly discussed the effect of voting against the motion, the billing of T10.1 members, and the status of the extant T10.1 projects. The motion passed 38:0:0:16=54.

John Lohmeyer took an action item to report to NCITS the T10 recommendation that T10.1 be disbanded and its projects (0989-M, 1051-D, 1121-M, 1145-M, 1146-D, and 1147-D) be assigned to T10.

John Lohmeyer commended the T10.1 members for getting their job done and quitting.

10.3 Approval of Contract Editor Quotes and Invoices [Lamers]

Larry Lamers moved that T10 approve a quotation and payment on the invoice of $3,139.25 from RDSGraphics for technical editing on SPI-2. John Lohmeyer seconded the motion. John noted that T10 has a substantial sum in its editing fund and that payment of the invoice would not affect the committee's ability to undertake more contract editing projects. The motion passed 34:1:1:18=54. John Lohmeyer took an action item to contact the NCITS secretariat and authorize payment of the RDSGraphics invoice in the amount of $3,139.25.

John Lohmeyer announced that T10 is working with Patrick Waychoff for the SES editing. No specific quotation amount was available, but another editing invoice is expected at the next meeting.

10.4 Initiation of a Letter Ballot on Forwarding SCC-2 Rev 3 to 1st PR [Penokie]

This topic was processed earlier in the agenda (a letter ballot will be issued).

10.5 Enclosure Profile Project Plans [DeKoning/Weber]

Ralph Weber reviewed briefly the Enclosure Profile discussion at the SCSI working group (minutes 97-210). Gene Milligan reminded the committee that Rod DeKoning agreed to coordinate with Doug Hagerman the Enclosure Profile scope and the High-Availability Profile scope. Doug Hagerman questioned the relationship with the Hub Management Profile. Most present felt that the two profiles have little, if any, relationship to each other.

11. ISO

11.1 ISO Report [Milligan]

Gene Milligan gave an oral report to the committee and provided the following electronic report:

```
ISO Report 5/97:

Head of US Delegation reports are available for the  ISO/IEC JTC 1/SC 25 and WG 4
meetings in Buzios, Brazil Meeting 23-26 June 1997. Highlights of the meeting are:

Agreement to unblock the backlog of WG 4 physical standards awaiting conversion of
domestic component and test standards to IEC standards.

The ftp site is ftp.iec.ch with a login of sc25mem and a password of welcome9. A web
page is also available at http://www.iec.ch/sc25.

Mr. Mori had been nominated as Project Editor for the upcoming revision of Flexible
disk (ISO) 9315 standard.
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Mr. Hosaya has been nominated as the Project Editor for the SCSI Optical Memory Card Reader.

The 34 WG 4 resolutions included resolutions to:

Reengineering allow "DIS text" of published national standards to be substituted in the Fast Track process to avoid the deletion of the resolution of member body comments.

Secretariat to apply to the JTC 1 ad-hoc group on Reengineering for a change in project 25.13.10.14 IPI enhanced PHY from 'cancel' to 'publish Type 1 Technical Report and cancel'.

Check on the survey response by Brazil to the questionnaire sent out by the JTC 1 Ad Hoc on JTC 1 Reengineering regarding project 25.13.13.01 FC-PH. In case the vote has been lost, SC 25 instructs its Secretariat to obtain a status change of project 25.13.13.01 FC-PH from 'cancel' to 'not cancel'. SC 25/WG 4 would like to note that FC-PH is the base standard for the complete family of FC related standards, and that all other part of this family of standards have not been canceled.

Action Points 4, 8 (Requires T10 action), 11 (Requires T11 action), 13 (Requires T11 action), 14, 15 (Requires T11 action), 17 (Requires T11 action), 20 & 21 (Requires T11 action), 23 (Requires T11 action), and 27 (Impacts T10).

(8) Status of SCSI-3 Fast-20, project number 25.13.11.14, and advise WG 4 members electronically.

(27) Mr. Reed to obtain more information about the sources of several ISO SCSI draft standards which are emanating from other ISO groups (e.g. a graphic devices SCSI standard).

SC 25 did not reach a recommendation yet on the so called Technical Directions reorganization. Among the recommendations being considered is:

===
SC 25 (Buzios/US) 35

JTC 1 Ad Hoc Group on JTC 1 Reengineering - Technical Directions

With consideration of :

The goal of establishing efficient market responsive combinations.

   Benefiting from synergies or related projects.
   The Scope of SC 6.
   The Scope of SC 25.
   The Scope of SC 25/WG 3.
   The Scope of SC 25/WG 4.

Rather than the grouping initially proposed by the JTC 1 Ad Hoc group on JTC 1 Reengineering, the following cooperation is recommended.

SC 25/WG 3 in cooperation with SC 6 concerning cabling.

SC 25/WG 4 in cooperation with SC 26 concerning peripheral interfaces and microprocessor systems.

SC 25 recommends that the above cooperation begins with the Subcommittees (i.e. SC 6, SC 25, and SC 26) continuing to function as separate bodies while evaluating how well the cooperation outlined below leads to more efficient operation. With the cooperation leading to improvements in the standards process a migration to operating as combined Subcommittees should be considered as a next logical step.

This cooperation should include:

   Liaison representatives.

```
      Joint meetings to encourage dialogue.
      Document exchange to share information.
      Encouraging common membership to expand understanding.
```

It is critical to avoid additional procedures which are likely to lead to wasted
resources since the process for standardization should take into account the needed
short development cycles of the industry served by the standards development process.

SC 25 encourages the JTC 1 Ad Hoc on JTC 1 Reengineering to focus on adjustments to
the standards process that have a high probability of achieving international
standards in shorter times.

==

In order to embark upon cooperation with SC 26 an effort is underway to have the next
meeting collocated with SC 26 during the week of 24 May 1998 in Tokyo.

Since the meeting Reengineering is considering the following items:

ISO/IEC JTC 1 N 4787 Request for comments on Types of Documents Distributed to JTC 1
notes that the reengineering Ad Hoc Recommendation 4, that Technical Corrigenda under
ballot be no longer distributed at the JTC 1 level but rather that the distribution be
limited to the SC concerned. National Body comments are requested on this
recommendation. Further, National Bodies are requested to provide contributions
identifying other types of documents that are currently distributed to both JTC 1 and
its SCs and where this dual distribution does not necessarily contribute to the
efficiency of the JTC 1 process. Contributions on these topics will be considered at
the September 1997 JTC 1 Plenary meeting in Ottawa. (The IR's personal response was "I
will bring this to T10 the day before the deadline for comments so here are my
personal comments:

I agree with the recommendation that Technical Corrigenda under ballot be no longer
distributed at the JTC 1 level but rather that the distribution be limited to the SC
concerned.

I recommend that DIS ballots no longer be distributed at the JTC 1 level but rather
that the distribution be limited to the SC concerned. Over the course of processing
approximately twenty-four projects through the JTC 1 DIS ballot I have not seen any
value added by National Bodies that were not Member Bodies of the SC."

ISO/IEC JTC 1 N 4785 Request for Contributions on the Value and Use of the Five-year
Review Process. The IR's personal comments were: "Personal comments ahead of 7/17 T10
meeting:

I see little value in the processing of a confirm decision for the five year review.
But I see a great deal of value in the processing of a withdraw decision. Obviously
there is nothing magical about five years. If the area of the standard is still vital
and the standards group is still active the so called review should be resulting from
market dynamics.

But confirm or withdraw are too simplistic. Something along the following lines is
needed on a cycle dependent upon the segment:
      Withdraw and/or replace for new designs.
      Withdraw and/or replace for continued manufacturing.
      Withdraw and/or replace for new procurements.
      Withdraw and/or replace for installed base maintenance.

Confirm is merely the absence of a withdraw or replace decision. If there is no one
around who cares about the area of the old standard, does it matter whether the
decision is ever taken? Should a highly viable standard be withdrawn when everyone has
purchased a copy? (Just anticipating the question as to how the publisher knows when
to stop printing? I assume that is taught in publishing school.)"

Request for Comments on JTC 1 Deliverables. JTC 1 Reengineering Ad Hoc Recommendation
6, asks National Bodies to consider the need for additional types of deliverables in
JTC 1 beyond the current International Standards, ISPs and Technical Reports. The IR's
personal comments were "Further personal comments awaiting T10 7/17 meeting:

                                                                          14

An additional type of deliverable in JTC 1 beyond the current International Standards, ISPs and Technical Reports could be an update service for the active publications. In general this would involve migration from the model of standards that do not change quicker than in five year increments and moving to one that recognizes that many of the viable standards are evolving continuously.

Application notes could also be beneficial and there are at least Trade Associations which are willing to generate such notes to benefit the industry without making it prejudiced to one companies view."

ISO/IEC JTC 1 N 4790 Request for Comments on the Future of SC 11. Based on the observation that SC 11's standards are primarily developed using the Fast-track procedure, National Bodies are requested to consider the future need for SC 11 (as per Reengineering Ad Hoc Recommendation 14). The IR's personal comments were "We looked under the Fast Track rock many years ago and did not like what we found. But with the Reengineering activity in full fashion we are again either looking under the rock or just plain under the rock.

I was fascinated by "Based on the observation that SC 11's standards are primarily developed using the Fast-track procedure, National Bodies are requested to consider the future need for SC 11"

What is the saying about spinning around fast enough in ever smaller circles ...?

As I recall a key step in the Fast Track process is to refer the Fast Track DIS ballot comments to an SC for resolution. Is the thought that there will be no comments, that comments will be ignored, or that any comments automatically reject the standard being processed?"

ISO/IEC JTC 1 N 4789 Request for a JTC 1 Workshop on Cultural Adaptability circulated to JTC 1 National Bodies for a 60-day letter ballot. Subcommittees are encouraged to participate in this Workshop and to submit an offer to Host the Workshop.

In accordance with JTC 1 Reengineering Ad Hoc Recommendation 7, the JTC 1 Secretariat is issuing a 60 day letter ballot to authorize a Workshop on Cultural Adaptability to be held no later than March 1998. The recommended scope of the Workshop is as follows:
* Engage multiple Technical Direction JTC 1 participation
* Develop policies to guide activities (in a like manner to that of interoperability and portability)
* Develop a process to ensure cultural adaptability
* Elaborate or amend the definition of cultural adaptability as contained in document
    JTC 1 N 4627
* Recommended placement for Coded Character Sets and the relationship with User
    Interface
* Increase the responsiveness of JTC 1 to cultural adaptability issues and increase
    the visibility of JTC 1 in this endeavor
* Recommendations from the HLSG on CALS concerning multi-byte character sets and
    internationalization should be taken into consideration
JTC 1 Subcommittees are encouraged to participate in this Workshop.
JTC 1 Subcommittees are further encouraged to submit an offer to serve as the Host for
    this Workshop.
The results of this Workshop are to be submitted to JTC 1 for review and approval by the JTC 1 National Bodies. Based on the Workshop conclusions, JTC 1 expects to receive Workshop recommendations on the placement
within JTC 1 of SC 22/WG 20 (Internationalization) and SC 2 (Coded Character Sets).

The IR's personal reply was "I don't think I have the guts to bring this one to T10. Will we know what "cultural adaptability" is when we see it?"

ISO/IEC JTC 1 N 4791 Request for comments per Reengineering Ad Hoc Recommendation 16, the JTC 1 Secretariat is taking the following action: Anticipating the approval of the JTC 1 letter ballot on document JTC 1 N 4775, JTC 1 Technical Directions, Organizational Structure and Modes of Operation, and to ensure a rapid transition, the JTC 1 Secretariat is hereby issuing a call for:

1. National Body interest in P & O membership in the proposed new subcommittees on Data Management Services and Distributed Application Services

2. National Body interest in assuming secretariat and/or chairman's responsibilities in the proposed new subcommittees on Data Management Services and Distributed Application Services.

Responses to the above inquiries are to be submitted to the JTC 1 Secretariat no later than August 29, 1997.

The IR's personal response was "Although I will not be able to review this with T10 until 7/17 it is in keeping with their instructions prior to the recent SC 25 meeting. The following comments were agreed to by the US delegation to SC 25, the expert delegation to SC 25 WG 3 & 4, and certain other key participants in SC 25. Since we did not have a SC 25 TAG position on this we requested that SC 25 distribute these and other somewhat different comments to the SC 25 Member Bodies for review and comment. However it sounds like your schedule is too short to wait for the SC 25 results so please consider the following: Proposed text of an SC 25 comment originated by the US delegates with cooperation of other participants:" which was SC 25 (Buzios/US) 35 given earlier in this report.

ISO/IEC JTC 1 N 4732 Proposal from SC 24 for an Imaging Business Team circulated to JTC 1 National Bodies for a 60-day letter ballot on ISO/IEC JTC 1/SC24 N1761 Proposal for an Imaging Business Team 27 May 1997 Based on the recent JTC 1 reengineering initiatives that include a set of new technical directions, the business team concept and a business team pilot project, SC24 proposes that JTC 1 form a second pilot project in the area of imaging. The purpose of this project is to initiate appropriate new JTC 1 work by the creation of new work item proposals, the selection of existing national body standards for fast track and the selection of publicly available specifications for PAS submission. The first step will be to assess current market requirements and technology.

Over the past seven years, JTC 1 SC24 has gained considerable experience through the successful development of a family of compatible standards for computer graphics and imaging. Some of the lessons learned that can be applied to a pilot business team in imaging are:

1. Both imaging and computer graphics are broadly applicable to most technical disciplines, including those in JTC 1 in the area of information technology and those in other ISO and IEC technical committees.

2. As the application of imaging and computer graphics to each specific technical discipline evolves, this leads to further refinement of interfaces, functional subdivisions and interchange formats.

3. There is intrinsic value in considering the integration of imaging with computer graphics (presentation of and interaction with information).

4. Imaging and computer graphics do not stand alone as independent technologies but benefit from aggregation and
integration with other data types to include application-specific data.

5. In addition to a well founded supplier oriented focus on market requirements, development of new imaging standards must include broad participation from other interests including academia, research and development organizations, information producers, users, managers and government (policy makers) influences.

The approach to be used in executing this pilot project is:

1. Identify user requirements in those communities that would benefit from imaging standardization efforts and focus on areas with highest potential for user acceptance and support.

2. Identify market sectors that are willing to commit resources in support of standardization efforts during the development phase but more importantly, during the implementation phase. These sectors may include remote sensing, medical, law enforcement and document imaging.

3. Identify current market activities and emerging technologies that can contribute to
the quality and/or timeliness of standards. One example of a market force is the
increasing use of internet technologies.

4. Identify needed standards and initiate new JTC 1 work by the creation of new work
item proposals, the selection of both, existing national body standards for fast track
and publicly available specifications for PAS submission.

5. Include consideration of testing and validation activities at an early stage in all
new work resulting from this pilot project. Testing activities include development of
plans, procedures and sample implementations to ensure the standard meets the
requirements that prompted its development.

6. Include consideration of profiles as tools to maximize compliance with resulting
standards while enabling specific implementations to meet the requirements of extended
audiences.

The proposed schedule is:

June 1997 Reengineering ad hoc authorizes a 60-day JTC 1 letter ballot to establish
the imaging pilot project.

September 1997 Pilot approved and work begins Not later that June 1998 Work on the
pilot is essentially complete - in particular, NP's are submitted for JTC 1 approval
with aggressive milestones for standards completion; applications for recognition as
PAS submitters are received by JTC 1; existing standards are submitted for fast track
processing First 1999 JTC 1 plenary JTC 1 evaluation of the pilot, recommendation for
next steps SC24 proposes an Imaging Business Team Pilot be established. SC24 is
prepared to offer a leader for this business team and will provide the necessary
administrative support.

The IR's personal comments were "Although I intend to make T10 aware of this I don't
know of a reason for T10 to have a position on the proposal. But I have some personal
comments:

My comments stem also from the Reengineering ad hoc report. While I understand the
desire to complete a pilot project first, I think those that find the approach
attractive and are turned down while the results of the pilot are deliberated will be
driven away to the more receptive consortia.

I was disappointed that the right sounding proposed pilot proposal did not include any
of the market assessment words in their schedule."

11.2 ISO Business [Milligan]

11.2.1 Fast-20

It was agreed that Larry Lamers, the Fast-20 Project Editor, will take an action item to check Fast-20 for
inclusion of the ISO comments.

11.2.2 Re-Engineering Responses

Larry Lamers moved that T10 endorse the SC 25 (Buzios/US) 35 recommendation regarding the JTC 1
re-engineering. Erich Oetting seconded the motion. In the absence of any objections, the motion passed
unanimously. Gene Milligan took an action item to communicate the T10 endorsement of the SC 25
(Buzios/US) 35 recommendation regarding the JTC 1 re-engineering to the JTC 1 TAG.

Larry Lamers moved that T10 endorse the IR recommendation on JTC 1 N 4787. John Lohmeyer seconded the
motion. In the absence of any objections, the motion passed unanimously. Gene Milligan took an action item to
communicate the T10 endorsement of his recommendation on JTC 1 N 4787 to the JTC 1 TAG.

Bob Snively moved that T10 endorse the IR recommendation on JTC 1 N 4785. Peter Johansson seconded the motion. In the absence of any objections, the motion passed unanimously. Gene Milligan took an action item to communicate the T10 endorsement of his recommendation on JTC 1 N 4785 to the JTC 1 TAG.

11.2.3 Other Projects for Initiation

Gene Milligan asked the committee whether SCC-2 and SMC should be submitted for international processing concurrent with their T10 letter ballots. Larry Lamers proposed that such actions be postponed until the JTC 1 re-engineering has been completed. There was no opposition expressed to Larry's proposal.

12. Liaison Reports

12.1 T11 Liaison Report [Cummings]

Roger Cummings, T11 Chair gave an oral report and provided the following electronic report:

```
T11 met on June 6, 1997 with 106 people in attendance.   No organizations lost member-
ship. Crossroads Systems, Jaycor Networks, Northrop Grumman, Panasonic & Rockwell-
Collins were added as new member organizations. The membership of T11 is now 84
organizations.

It was announced that a project for Revision to HIPPI-FP (X3.210:1992) had been
approved.

Public Reviews were announced as follows:

a) The recommendations to withdraw X3.186[R1992], X3.201-1992, A/I 9318-2:1992 from
5/9/97 to 7/8/97;

b) First Public Reviews of NCITS TR-19:199x, FC-PLDA, & NCITS TR-20:199x, FC-FLA from
5/23/97 to 7/22/97.

(Note that the Technical Editor has already submitted 290 comments against FC-PLDA)

It was noted that expedited NCITS Letter Ballots on the formation of TGs T11.1 and
T11.2 will close on 6/30/97, and a ballot on the HIPPI-ST Project Proposal will close
on 7/14/97.

The T11 Annual Report was stated to have been presented and approved at the OMC
meeting in Scottsdale, AZ on May 6 (along with those of T10 & T12). The T11 AR is
available in html format from www.dpt.com/t11.

A revised draft of NCITS 303:199x, FC-PH-3, which addresses the Public Review
comments, was not made available as expected. This was due to ongoing work on the
electrical physical variant definitions in order to be able to positively respond to
some of the DEC comments.

The Call for a T11 International Representative closes on 7/31/97.

The next meeting of T11 is being hosted by by Paul Boulay of Hitachi America during
week of August 4, 1997 @ the Ala Moana Hotel Honolulu, HI. The phone number is (808)
955-4811, and the fax number is (808)944-6839 (reservations by fax are preferred).
Note that the organizational meetings of Task Groups T11.1 (HIPPI) and T11.2 (Physical
Variants) will take place on Wednesday August 6, and the TC T11 Plenary meeting will
take place on THURSDAY, August 7. Interim study and ad hoc meetings have been approved
for:

HIPPI              7/8-10          Eagan, MN

FCL Study Group    7/14&15         Colorado Springs

as well as the usual meetings during the T11 Plenary week.
```

    For further details on the Task Groups and the T11 meeting week, see
    http://www.dpt.com/t11 (and especially the What's New page).

12.2 T13 Liaison Report [Milligan]

Gene Milligan gave an oral report to the committee and provided the following electronic report::

    T13 met June 18-20, 1997 : Irvine, CA at Western Digital. ATA/ATAPI-4 - Project 1153D
    Revision 13 was reviewed. Due to a conflict with the WP bit and UNC the WRITE VERIFY
    command was obsoleted. The D97120 Support for Removable Media proposal was agreed to
    for inclusion in the draft. The PDIAG in 80 Conductor cable proposal D97121 was agreed
    to for inclusion in the draft. The only remaining open issue item is the location of
    the DD7 pull down resistor with Ultra DMA

    The Enhanced BIOS Disk Drive Technical Report - Project 1226DT revision 4 was
    reviewed.

    The Tailgate draft D97107 completed an editorial session with no known technical
    issues.

    Tom Hanan presented a test procedure for signal integrity D97103. The sense of the
    group was to consider this for a technical report.

    A patent license statement has not yet been received from Quantum concerning Ultra
    DMA.

    The next plenary meeting of T13 will be July 25, 1997 at the Seagate Technology
    facility, in San Jose, CA hosted by Seagate Technology.

    The next working meeting will be July 23-24, 1997 at the Seagate Technology facility,
    in San Jose, CA hosted by Seagate Technology.

12.3 SFF Industry Group [Allan]

No formal report was available at the meeting.

Bill Ham reported that both the VHDCI and SCA-2 are both approved projects at EIA and are being submitted by EIA to IEC.

12.4 IEEE 1394 [Johansson]

Peter Johansson gave an oral report to the committee and provided the following electronic report:

    P1394a continues to meet monthly. The goal is to complete the draft by October in
    order for IEEE balloting to commence. Because of this, the scope of work was frozen at
    the May meeting in Phoenix, AZ.

    A draft that reflects all of the agreed scope of work is expected for the August 4 - 5
    meetings in Honolulu, HI.

    1394 cable power, both its distribution and management, continues to be a difficult
    problem. Some of the power management work affects P1394a and some has spun off into a
    separate power management working group under the aegis of the 1394 Trade Association.
    The reflector is list@p1394pm.org and it is automated a la Majordomo.

    Documents available at the FTP site, ftp://. For reflector announcements,
    P1394@Sun.com; subscribe by sending a message to Bob.Snively@Sun.com.

    P1394b is also meeting monthly. In addition to its original charter, the scope of work
    has been expanded to include long-distance (greater than 4.5 meters) cables; this has
    spawned two task forces, one focused on low-cost, low-speed solutions (e.g., UTP-5 or
    POF in a home environment) and the other focused on low-cost, high-speed solutions.
    The goals of these task groups may in fact converge.

> For reflector announcements, P1394b@FireflyInc.com; subscribe by automated Majordomo
> services at listserve@FireflyInc.com.
>
> P1394.1 (bridges) is making slow progress; the likely cause is lack of resources
> because all of the individuals are also heavily involved in the other 1394 standards
> extensions.

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

This report covers specifically the activities of the Digital Transmission Discussion Group (DTDG) and the Data Hiding Sub-Group (DHSG).

Devon asked that this item be added to the liaison reports agenda because of its relationship to work in the MMC working group.

12.6 IEEE P1285 Status

No report was available.

12.7 IEEE P1596.8 Status

Bob Snively had no report.

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

Skip Jones, Qlogic, and Louis Grantham, Linfinity Microelectronics, gave an oral report to the committee and Louis provided the following electronic report:

> *STA* Objectives:
> Promote Increased Usage of Parallel SCSI
> Promote Better Understanding of Parallel SCSI
> Shape the Evolution of Parallel SCSI
>
> *STA* meetings have been moved to Fridays of the T10 week so the next meeting is
> tomorrow at this hotel. Articles are written for each Computer Technology Review
> issue and other publications on SCSI technologies and applications.
>
> *STA* participated in Dataquest's Storage Track '97 in Monterey, CA June 4-5.
>
> The *STA* Technical Committee met this morning and received input from T10 members on
> Ultra3 and beyond. Discussion included: market segmentation on the desktop and
> workstation/server, terminology for Ultra3 and Fast 80 (or Fast 100), and issues with
> Fast 80 vs. Fast 100. The next meeting will be on the Thursday morning before the T10
> plenary in September.
>
> *STA* marketing communication upcoming events:
> o Storage Solutions 1997, a Dataquest sponsored event in 4 locations across the US.
> Seminar Titles: "SCSI and the Enterprise" and "SCSI and the Desktop"
>   April 3rd - San Jose, CA
>   April 14th - Costa Mesa, CA
>   May 14th - Nashua, NH
>   September 17th - Marlborough, MA
> o Nikkei conference in Japan - September 16th and 17th
> o Comdex - November

Gene Milligan reported that Phil Devon (a participant in the early days of SCSI development) had died in late April while vacationing in Italy.

13. Review of Action Items

228)   Larry Lamers will incorporate the pre-edit comments into SPI Amendment #1.
229)   John Lohmeyer will forwarded the revised SPI Amendment #1 to NCITS for management review.
230)   John Lohmeyer will forward the revised SES to NCITS for management review.
231)   Larry Lamers (via professional editor) will prepare SES for forwarding to NCITS for management review.
232)   Erich Oetting will prepare SMC revision 8 for the committee mailing and T10 letter ballot.
233)   John Lohmeyer will conduct a T10 letter ballot to approve forwarding SMC revision 8 to first public review.
234)   George Penokie will prepare SCC-2 revision 3 for the committee mailing and T10 letter ballot.
235)   John Lohmeyer will conduct a T10 letter ballot to approve forwarding SCC-2 revision 3 to first public review.
236)   John Lohmeyer will report to NCITS the T10 recommendation that T10.1 be disbanded and its projects be assigned to T10.
237)   John Lohmeyer will contact the NCITS secretariat to authorize payment of the RDSGraphics invoice in the amount of $3,139.25.
238)   Larry Lamers will check Fast-20 for inclusion of the ISO comments.
239)   Gene Milligan will communicate the T10 endorsement of the SC 25 (Buzios/US) 35 recommendation regarding the JTC 1 re-engineering to the JTC 1 TAG.
240)   Gene Milligan will communicate the T10 endorsement of his personal recommendations on JTC 1 N 4787 and JTC 1 N 4785 to the JTC 1 TAG.
241)   Bob Snively will contact the chair of P1596.8 to establish an appropriate liaison.
242)   Ralph Weber will consult with Harvey Rosenfeld about updating World Wide Web references in Annexes B and C of SPC prior to final ANSI publication.
243)   John Lohmeyer will include discussion of making the REPORT LUNS command mandatory on the agenda of the combined SCSI/MMC working group meeting in September.

14. Meeting Schedule

The next plenary meeting of T10 will be September 11, 1997 in Nashua, NH at the Crowne Plaza Nashua (603-886-1200), hosted by Unitrode. The meeting will begin at 1:30 p.m. on Thursday.

The meeting list for the next plenary week is:

```
                    September '97 Meeting Map
                        (7/17/97 Version)

Monday 9/8        9   10  11  12  1   2   3   4   5   6   7   8   9
                  +============+    +=========================+
                  | Fast-xx SG |    | SPI-2 WG                |      (30)
                  +============+----+================+=======+
                  | SBP-2 WG                         |             (25)
                  +=================================+
                  | Fibre Channel WG                          |    (40)
                  +------------------------------------------+

Tuesday 9/9       9   10  11  12  1   2   3   4   5   6   7   8   9
                  +============+    +=====================+
                  | EPI WG     |    | Protocol SG         |         (40)
                  +============+====+================+===+
                  | MMC WG                           |             (20)
                  +=================================+
                  | SBP-2 WG                         |             (25)
                  +===============+==============+===+----------+
                  |Fibre Channel WG|            |FC Hub Profile |   (40/25)
                  +---------------+            +--------------+

Wednesday 9/10    9   10  11  12  1   2   3   4   5   6   7   8
                  +========================+============+
                  |MMC/SBP-2/SPC-2/SCSI WG  |Encl Profile |        (60)
                  +===============+=========+=====+=======+
                                  | SFF SSWGs     | SFF   |        (40)
                                  +--------------+-------+

Thursday 9/11     9   10  11  12  1   2   3   4   5   6   7   8
                  +-----+------+    +=========================+
                  |STA T|SFF ATA   | T10 Plenary Meeting     |     (25/70)
                  +=====+======+==+=+=========================+
                  | SSC/SMC WG    |                                (25)
                  +==============+

Friday 9/12    8  9   10  11  12  1   2   3   4   5
                  +--------------------------------+
                  | SCSI Trade Association (STA)    |             (30)
                  +--------------------------------+
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Meetings marked with == are T10-authorized meetings.
Meetings marked with -- are authorized by other groups and may change
without notice.

```
Meeting Map Abbreviation Key:
Amnd:          Amendment
CAM:           Common Access Method
CAM-3:         Next generation CAM for SCSI-3
Diskboys:      Industry group studying disk attachment via IEEE 1394
EPI:           SCSI Enhanced Parallel Interface (Technical Report)
Encl Profile Enclosure Profile Study Group
Fast-20:       Data Transfer at 20 Mega-transfers/second (a.k.a., Ultra)
Fast-40:       Data Transfer at 40 Mega-transfers/second (a.k.a., Ultra2)
FC:            Fibre Channel
FC-AL:         Fibre Channel - Arbitrated Loop (a T11 project)
FCLC:          Fibre Channel Loop Community (not an NCITS activity)
I/F:           Interface
HAP:           High Availability Profile (Technical Report)
LB:            Letter Ballot
MMC:           SCSI-3 Multimedia Commands (CD-ROM)
PH:            Physical (Connectors, Cables, Transceivers, etc.)
Plenary:       Full Committee Meeting
RAID:          Redundant Array of Independent Devices
SBC:           SCSI-3 Block Commands
SBP-2:         Serial Bus Protocol for IEEE 1394 (2nd generation)
SCC:           SCSI-3 Controller Commands (RAID)
SCSI:          Small Computer System Interface
SES:           SCSI Enclosure Services
SFF:           SFF Industry Group (not an NCITS activity)
SFF ATA:       SFF ATA Cabling SSWG (not an NCITS activity)
SG:            Study Group
SMC:           SCSI-3 Medium Changer Commands
SPC:           SCSI-3 Primary Commands
SPI-2:         Second Generation SCSI-3 Parallel Interface
SSA:           Serial Storage Interface
SSC:           SCSI-3 Stream Commands (includes Tape)
SSWGs:         Specific-Subject Working Groups
STA:           SCSI Trade Association (not an NCITS activity)
STA T:         STA Technical Meeting (T10 members invited)
STS:           SCSI Transport via SBP-2
T10:           Lower Level Interfaces Technical Committee
T10.1:         SSA Task Group of T10
VHDCI          Very High Density Cabled Interconnect
WG:            Working Group (same as Ad Hoc Group)
```

Planned T10 events outside of the plenary week are:

```
Event                 Date(s)               Location/contact
--------------------- --------------------- --------------------------------
SBP-2 Editors         Jul 22 (Tue)          San Jose / Seagate
SBP-2 WG              Aug 16 (Tue)          Longmont / Maxtor
SBP-2 WG              Oct  7 (Tue)          Irvine / SSI
SPI-2 Editors         Aug 27 (Wed)          San Jose / Unitrode  (+Phone conference)
MMC-2 WG              TBD week of Aug 11    San Jose / Philips
```

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

```
Activity                   Contact         Telephone/Email
-------------------------- --------------- -----------------------------
CAM-3                      Bill Dallas     (603) 881-2508
                                           dallas@wasted.enet.dec.com
EPI & SPI-2                Bill Ham        (508) 841-2629
                                           ham@subsys.enet.dec.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
                                           hagerman@mail.dec.com
SAM & SAM-2                Charles Monia   (508) 841-6757
```

```
                                      charles.monia@shr.mts.dec.com
SBC                    Gene Milligan  (405) 324-3070
                                      gene_milligan@notes.seagate.com
SBP, MMC, MMC-2        Ron Roberts    (916) 677-5714
                                      rkroberts@aol.com
SBP-2 & STS            Pete McLean    (303) 678-2149
                                      pete_mclean@maxtor.com
                   or  Peter Johansson (510) 531-5472
                                      pjohansson@aol.com
SIP, SCC, SCC-2        George Penokie (507) 253-5208
                                      gop@us.ibm.com
SMC                    Erich Oetting  (303) 673-2178
                                      Erich_Oetting@Stortek.com
SPC, SPC-2             Ralph Weber    (972) 503-3205 x228
                                      roweber@acm.org
SSA-PH1,-PH2,-TL1,-TL2 Larry Lamers   (408) 957-7817
                                      ljlamers@aol.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
                                      john.lohmeyer@symbios.com
```

The long-term T10 meeting week schedule is:

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Date              Location                 Host/Comments
----------------  ------------------------ --------------------
Jan  6-10, 1997   Dallas, TX               Quantum
Mar 10-14, 1997   San Diego, CA            QLogic
May  5-9,  1997   Natick, MA (near Boston) Digital
Jul 14-18, 1997   Colorado Springs, CO     Symbios Logic
Sep  8-12, 1997   Nashua, NH               Unitrode
Nov  3-7,  1997   Palm Springs, CA         Adaptec
Jan  5-9,  1998                            meeting canceled
Mar 16-20, 1998   San Diego, CA            QLogic/dates changed
May  4-8,  1998   Colorado Springs, CO     Symbios Logic
Jul 13-17, 1998   Portland, ME             Digital
Sep 14-18, 1998   St. Petersburg Beach, FL AMP
Nov  2-6,  1998   Palm Springs, CA         Adaptec/dates changed
Jan 11-15, 1999                            meeting canceled
Mar  8-12, 1999   Sarasota, FL             AMP
May  3-7,  1999   Manchester, NH           Hitachi Cable
Jul 12-16, 1999   Colorado Springs, CO     Symbios Logic
Sep 13-17, 1999   San Diego, CA            QLogic
Nov  8-12, 1999   Palm Springs, CA         Adaptec
```

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. This later requirement is why we have traditionally only used non-binding straw polls in working group meetings. Any issue where the voting rules would make a difference should be deferred to the plenary group. Nonetheless, task groups and ad hoc groups should strive to achieve consensus prior to bringing issues to T10.

Bill Ham moved that T10 authorize the T10-related meetings and events in the list above. Paul Aloisi seconded the motion. In the absence of any objections, the motion passed unanimously.

15. Adjournment

The meeting was adjourned at 6:24 p.m. on Thursday July 17, 1997.

Meeting Attendees -- Enclosure (1)

Name	S	Organization	Electronic Mail Address
Mr. Norm Harris	P	Adaptec, Inc.	nharris@eng.adaptec.com
Mr. Lawrence J. Lamers	A	Adaptec, Inc.	ljlamers@ix.netcom.com
Mr. Charles Brill	P	AMP, Inc.	cebrill@amp.com
Mr. Michael Wingard	P	Amphenol Interconnect	mikwingard@aol.com
Mr. Bart Raudebaugh	A	Ancot Corp.	bart@ancot.com
Mr. Ron Roberts	A	Apple Computer	rkroberts@aol.com
Mr. Douglas Wagner	P	Berg Electronics	wagnerdl@bergelect.com
Mr. Gerry Johnsen	P	Ciprico Inc.	gerry@ciprico.com
Mr. Dennis Lang	A	Circuit Assembly Corp.	dennisl@ca-online.com
Mr. Ken Wolfgang	P	Cirrus Logic Inc.	kenw@colorado.cirrus.com
Mr. Edward Haske	P	CMD Technology	haske@cmd.com
Mr. Peter Johansson	P	Congruent Software, Inc.	pjohansson@aol.com
Mr. Charles Tashbook	P	Dallas Semiconductor	charles.tashbook@dalsemi. com
Mr. Michael Smith	A	Dallas Semiconductor	mike.smith@dalsemi.com
Mr. Greg McSorley	P	Data General / Clariion	greg_mcsorley@dgc.ceo.dg. com
Mr. Bill Anderson	O	DDK Electronics	w.anderson@world.att.net
Mr. Douglas Hagerman	A#	Digital Equipment Corp.	hagerman@mail.dec.com
Dr. William Ham	A#	Digital Equipment Corp.	ham@subsys.enet.dec.com
Mr. Keith W. Parker	P	Diogenes SCSI	diogenes@europa.com
Mr. Roger Cummings	P	Distributed Processing Tech.	cummings_roger@dpt.com
Mr. Robert Reisch	P	Eastman Kodak Co.	reisch@kodak.com
Ms. Constance Kephart	P	Exabyte Corp.	conniek@exabyte.com
Mr. Gary R. Stephens	P	FSI Consulting Services	6363897@mcimail.com
Mr. Don Vohar	A	Fujitsu (FCPA)	dvohar@fcpa.fujitsu.com
Mr. J. R. Sims	P	Hewlett Packard Co.	robsims@hootie.lvld.hp.com
Mr. Kirk Rogers	A	Hitachi Cable Manchester,Inc	krogers@hcm.hitachi.com
Mr. Anthony Yang	P	Hitachi Storage Products	yang_a@halsp.hitachi.com
Mr. Thomas J. Kulesza	P	Honda Connectors	tkulesza@hondaconnectors. com
Mr. Terry Enright	A	Honda Connectors	
Mr. George Penokie	P	IBM Corp.	gop@us.ibm.com
Mr. Dan Colegrove	A#	IBM Corp.	colegrov@us.ibm.com
Mr. David Poulsen	V	Iomega Corp.	poulsend@iomega.com
Mr. Dennis Moore	P	KnowledgeTek, Inc.	dmoore@netcom.com
Mr. Dean Wallace	P	Linfinity Micro	75671.3443@compuserve.com
Mr. Louis Grantham	A	Linfinity Micro	lgdatcom@ix.netcom.com
Mr. Alan Littlewood	P	LSI Logic Corp.	alanl@lsil.com
Mr. Robert Bellino	P	Madison Cable Corp.	robert_bellino@madisonusa .ccmail.compuserve.com
Mr. Pete McLean	P	Maxtor Corp.	pete_mclean@maxtor.com
Mr. Bob Masterson	P	Methode Electronics, Inc.	rwmast@methode.com
Mr. Joe Dambach	P	Molex Inc.	jdambach@molex.com
Mr. Jay Neer	A	Molex Inc.	jneer@molex.com
Mr. Edward A. Gardner	P	Ophidian Designs	eag@ophidian.com
Mr. Marc D. Brooks	V	Paralan Corporation	scsi@paralan.com
Mr. Randall C. Hines	A	Philips Electronics	hinesr@worldnet.att.net
Mr. Skip Jones	P	QLogic Corp.	sk_jones@qlc.com
Mr. James McGrath	P	Quantum Corp.	JMCGRATH@QNTM.COM
Mr. Mark Evans	A	Quantum Corp.	mevans@qntm.com
Mr. Gene Milligan	P	Seagate Technology	Gene_Milligan@notes. seagate.com
Mr. Dave Guss	P	Silicon Systems, Inc.	dave.guss@tus.ssi1.com
Mr. Janek Rebalski	A	Sony Electronics, Inc.	janek_rebalski@asd.sel. sony.com
Mr. Erich Oetting	P	Storage Technology Corp.	erich_oetting@stortek.com
Mr. Dale LaFollette	V	StorageTek	dale_lafollette@stortek. com
Mr. Robert N. Snively	P	Sun Microsystems Computer Co	bob.snively@eng.sun.com

```
Mr. John Lohmeyer      P   Symbios Logic Inc.        john.lohmeyer@symbios.com
Mr. Ralph O. Weber     A   Symbios Logic Inc.        roweber@acm.org
Mr. Brian McKean       A   SyQuest Technology, Inc.  brian.mckean@syquest.com
Mr. Pete Tobias        P   Tandem Computers          tobias_pete@tandem.com
Mr. Tokuyuki Totani    P   Toshiba America Info Sys  totani@ix.netcom.com
Mr. Arlan P. Stone     A   UNISYS Corporation        arlan.stone@unisys.com
Mr. Paul D. Aloisi     P   Unitrode Corporation      aloisi@unitrode.com
Mr. Devon Worrell      A   Western Digital           worrell@dt.wdc.com
                           Corporation
Mr. Doug Piper         P   Woven Electronics         doug.piper@internetmci.com
```

62 People Present

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

July 21, 1997 - T10 Attendance Database - Enclosure (2)

Mr. Daniel Weng (O)
Acard Technology Corp.
IF NO 6
Wu Hsing Street
Taipei Taiwan ROC
Ph: 886-2-3773357
FX: 886-2-7374916
Em:

Mr. Norm Harris (P)
Adaptec, Inc.
691 S. Milpitas Blvd.
Milpitas, CA 95035
Ph: (408) 957-2230
FX: (408) 957-7145
Em: nharris@eng.adaptec.com

Mr. Vincent Bastiani (A#)
Adaptec, Inc.
691 S. Milpitas Blvd.
Milpitas, CA 95035
Ph: (408) 957-7153
FX:
Em: bastiani@corp.adaptec.com

Mr. Lawrence J. Lamers (A)
Adaptec, Inc.
691 S. Milpitas Blvd.
Milpitas, CA 95035
Ph: (408) 957-7817
FX: (408) 957-7193
Em: ljlamers@ix.netcom.com

Mr. Erik Falk (O)
ADIC
POB 2996
Redmond, WA 98073-2996
Ph: (206) 881-8004
FX: (206) 881-2296
Em:

Mr. Steven P. Ego (O)
Aeronics Inc.
12741 Research Blvd #500
Austin, TX 78759
Ph: (512) 258-2303
FX: (512) 258-4392
Em:

Mr. Kent Manabe (O)
America Kotobuki Electronics
100 Century Center Ct. #310
San Jose, CA 95112
Ph: (408) 441-9232
FX: (408) 441-9246
Em: manabe@ix.netcom.com

Mr. Charles Brill (P)
AMP, Inc.
Mail Stop 210-20
P. O. Box 3608
Harrisburg, PA 17105
Ph: (717) 592-6198
FX: (717) 558-6179
Em: cebrill@amp.com

Ms. Lisa Huff (A)
AMP, Inc.
PO Box 3608
MS 128-83
Harrisburg, PA 17105
Ph: (717) 986-3143
FX: (717) 986-3410
Em: lisa.huff@amp.com

Mr. Mike Englert (O)
AMP, Inc.
M/S 171-001
PO Box 3608
Harrisburg, PA 17105
Ph:
FX:
Em:

Ms. Bonnie Rose (O)
Amphenol Canada Corp.
20 Melford Dr.
Scarboraugh, Ontario
Canada M1B 2X6
Ph: (416) 291-4401 x2239
FX: (416) 292-0647
Em: brose@cosmosgroup.com

Mr. Michael Wingard (P)
Amphenol Interconnect
20 Valley St.
Endicott, NY 13760
Ph: (607) 786-4241
FX: (607) 786-4311
Em: mikwingard@aol.com

Mr. Carl Booth (O)
Amphenol/Spectra-Strip
720 Sherman Ave.
Hamden, CT 06514
Ph: (203) 287-7455
FX: (203) 281-5872
Em: 7480559@mcimail.com

Mr. Gary Porter (P)
Ancot Corp.
115 Constitution Dr.
Menlo Park, CA 94025
Ph: (415) 322-5322
FX: (415) 322-0455
Em: garyp@ancot.com

Mr. Bart Raudebaugh (A)
Ancot Corp.

Mr. Dave Holzer (P)
Apple Computer

115 Constitution Dr.
Menlo Park, CA 94025
Ph: (415) 322-5322
FX: (415) 322-0455
Em: bart@ancot.com

3535 Monroe St., MS 69-G
Santa Clara, CA 95051
Ph: (408) 974-9314
FX: (408) 974-2898
Em: dholzer@apple.com

Mr. Ron Roberts (A)
Apple Computer
3535 Monroe St. MS:69-G
Santa Clara, CA 95051
Ph: (916) 677-5714
FX: (916) 677-1218
Em: rkroberts@aol.com

Mr. James R. Bergsten (O)
Ark Research Corp.
1190 Saratoga Ave. #110
San Jose, CA 95129-3433
Ph: (408) 260-5900
FX: (408) 260-5908
Em: bergsten@arkres.com

Ms. Brigitte Tiszauer (O)
ATG Cygnet Inc.
2560 Junction Ave.
San Jose, CA 95134-1902
Ph: (408) 383-2198
FX:
Em:

Mr. Douglas Wagner (P)
Berg Electronics
472 Delwood Ct.
Newbury Park, CA 91320-4819
Ph: (805) 498-0325
FX: (805) 498-0325
Em: wagnerdl@bergelect.com

Mr. Edward Cady (A#)
Berg Electronics
15005 NW Timmerman Road
Forest Grove, OR 97116
Ph: (503) 359-4556
FX: (503) 359-9273
Em: edcady@aol.com

Mr. Jim Koser (A)
Berg Electronics
825 Old Trail Road
Etters, PA 17319
Ph: (717) 938-7679
FX: (717) 938-7991
Em: jkoser@aol.com

Mr. Philippe Schreck (O)
Bull S.A.
Rue Jean Jaures
78340 Les Clayes
Sous Bois France
Ph: 33-130806179
FX: 30-807285
Em:

Mr. Bob Gannon (O)
C&M Corp.
PO Box 348
51 South Walnut St.
Wauregan, CT 06387
Ph: (203) 774-4812
FX: (203) 774-7330
Em: bobg848740@aol.com

Mr. Richard Wagner (P)
Cable Design Technologies
28 Sword Street
Auburn, MA 01501
Ph: (508) 791-3161
FX: (508) 798-8353
Em: rwagner@montrose-cdt.com

Mr. Joseph Merkwaz (A)
Cable Design Technologies
28 Sword Street
Auburn, MA 01501-0276
Ph: (508) 791-3161
FX: (508) 798-8353
Em:

Mr. David Ruxton (O)
Calluna Technology Ltd.
One Blackwood Road
Eastfield Glenrothes
Fife KY7 4NP Scotland
Ph: 44-1592-630810
FX: 44-1592-630920
Em:

Mr. Gerry Johnsen (P)
Ciprico Inc.
2800 Campus Dr. Suite 60
Plymouth, MN 55441
Ph: (612) 551-4000
FX: (612) 551-4002
Em: gerry@ciprico.com

Mr. Raymond Gilson (A)
Ciprico Inc.
2800 Campus Drive
Suite 60
Plymouth, MN 55441
Ph: (612) 551-4047

Mr. Ian Morrell (P)
Circuit Assembly Corp.
18 Thomas St.
Irvine, CA 92718-2703
Ph: (714) 855-7887
FX: (714) 855-4298

FX: (612) 551-4002   Em: ianm@ca-online.com
Em: rwg@ciprico.com

Mr. Dennis Lang (A)   Mr. Ken Wolfgang (P)
Circuit Assembly Corp.   Cirrus Logic Inc.
18 Thomas St.   350 Interlocken Parkway
Irvine, CA 92718-2703   Broomfield, CO 80021
Ph: (714) 855-7887   Ph: (303) 460-5228 x6661
FX: (714) 855-4298   FX:
Em: dennisl@ca-online.com   Em: kenw@colorado.cirrus.com

Mr. Ben Chang (O)   Mr. Edward Haske (P)
Cirrus Logic Inc.   CMD Technology
3100 W. Warren Ave.   1 Vanderbilt
Fremont, Ca 94538   Irvine, CA 92718
Ph: (510) 226-2394   Ph: (714) 454-0800
FX: FX: (714) 455-1656
Em: ben@corp.cirrus.com   Em: haske@cmd.com

Mr. Roger Wang (A)   Mr. Bill Galloway (O)
CMD Technology   Compaq Computer Corp.
1 Vanderbilt   P.O. Box 692000 M090504
Irvine, CA 92618   Houston, TX 77269-2000
Ph: (714) 454-0800   Ph: (713) 514-6732
FX: (714) 454-0542   FX: (713) 514-0513
Em: Em: Bill.Galloway@compaq.com

Mr. Peter Johansson (P)   Mr. Geoffrey Hoese (O)
Congruent Software, Inc.   Crossroads Systems Inc.
3998 Whittle Ave.   6101 W. Courtyard Dr.
Oakland, CA 94602   Bldg 1 So
Ph: (510) 531-5472   Austin, TX 78730
FX: (510) 531-2942   Ph: (512) 349-0300 x17
Em: pjohansson@aol.com   FX: (512) 349-0304
                                         Em: gbh@crossroads.com

Mr. Charles Tashbook (P)   Mr. Michael Smith (A)
Dallas Semiconductor   Dallas Semiconductor
4401 S. Beltwood Pkwy.   4401 S. Beltwood Pkwy
Dallas, TX 75244-3292   Dallas, TX 75244
Ph: (972) 371-4110   Ph: (972) 371-4457
FX: (972) 371-3715   FX: (214) 450-3715
Em: charles.tashbook@dalsemi.com   Em: mike.smith@dalsemi.com

Mr. Greg McSorley (P)   Mr. Gary S. Peterson (A)
Data General / Clariion   Data General / Clariion
4400 Computer Dr.   MS C-33
Westboro, MA 01580   Coslin Dr.
Ph: (508) 898-6032   Southboro, MA 01722
FX: (508) 898-5413   Ph: (508) 480-7150
Em: greg_mcsorley@dgc.ceo.dg.com   FX: (508) 480-7913
                                         Em: gpeterson@clariion.com

Mr. Bill Anderson (O)   Mr. Rick Hardy (O)
DDK Electronics   Denron, Inc.
3001 Oakmead Village Dr.   2135 Ringwood Ave.
Santa Clara, CA 95051   San Jose, CA 95131
Ph: (408) 980-8344   Ph: (408) 435-7697
FX: (408) 980-9750   FX: (408) 435-1109
Em: w.anderson@world.att.net   Em: rhardy@denron.com

Mr. James Benfer (O)   Mr. Charles Monia (P)

Digi-Data Corp.
8580 Dorsey Run Road
Jessup, MD 20794
Ph: (301) 498-0200
FX:
Em:

Digital Equipment Corp.
SHR3-2/W04
334 South Street
Shrewsbury, MA 01545
Ph: (508) 841-6757
FX: (508) 841-6100
Em: charles.monia@shr.mts.dec.com

Mr. William Dallas (A#)
Digital Equipment Corp.
ZK03-3/T79
110 Spit Brook Road
Nashua, NH 03062-2698
Ph: (603) 881-2508
FX: (603) 881-2257
Em: dallas@wasted.enet.dec.com

Mr. Douglas Hagerman (A#)
Digital Equipment Corp.
SHR3-2/W3
334 South Street
Shrewsbury, MA 01545
Ph: (508) 841-2145
FX: (508) 841-6100
Em: hagerman@mail.dec.com

Dr. William Ham (A#)
Digital Equipment Corp.
SHR3-2/W04
334 South Street
Shrewsbury, MA 01545
Ph: (508) 841-2629
FX: (508) 841-5266
Em: ham@subsys.enet.dec.com

Ms. Kathy Straitt (A)
Digital Equipment Corp.
SHR3-2/C5
334 South Street
Shrewsbury, MA 01545-4113
Ph: (508) 841-2003
FX: (508) 841-5266
Em: straitt@starch.ENET.dec.com

Mr. Paul Massiglia (O)
Digital Equipment Corp.
301 Rockrimmon Blvd. So.
Colorado Springs, CO 80919
Ph: (719) 548-2440
FX: (719) 548-2362
Em: massiglia@genral.enet.dec.com

Mr. Stephen J. Sicola (O)
Digital Equipment Corp.
301 Rockrimmon Blvd. So.
Colorado Springs, CO 80132
Ph: (719) 548-2268
FX: (719) 548-2541
Em: sicola@peaks.dec.com

Mr. Keith W. Parker (P)
Diogenes SCSI
10304 N.E. Beech St.
Portland, OR 97220
Ph: (503) 255-1035
FX:
Em: diogenes@europa.com

Mr. Roger Cummings (P)
Distributed Processing Tech.
140 Candace Dr.
Maitland, FL 32751
Ph: (407) 830-5522 x348
FX: (407) 260-5366
Em: cummings_roger@dpt.com

Mr. Tom Treadway (A)
Distributed Processing Tech.
140 Candace Dr.
Maitland, FL 32751
Ph: (407) 830-5522
FX: (407) 260-5366
Em: Treadway@dpt.com

Mr. Robert Reisch (P)
Eastman Kodak Co.
460 Buffalo Road
Rochester, NY 14652-3816
Ph: (716) 588-0573
FX: (716) 588-2624
Em: reisch@kodak.com

Mr. Rick Bohn (A)
Eastman Kodak Co.
460 Buffalo Road
Rochester, NY 14652-3816
Ph: (716) 722-0997
FX: (716) 588-2624
Em: bohn@sector.kodak.com

Mr. James D. Converse (XO)
Eastman Kodak Co.
Corp. Standards NCITS Chair
343 State Street
Rochester, NY 14650
Ph: (716) 781-9091
FX: (716) 724-9023
Em: jdc@kodak.com

Mr. Terry Maezawa (O)
Electronic&Ind. Enterprises
Suite 216
21 Eastbrook Bend
Peachtree City, GA 30269

Mr. I. Dal Allan (P)
ENDL
14426 Black Walnut Ct.
Saratoga, CA 95070
Ph: (408) 867-6630

```
Ph: (404) 487-5815               FX: (408) 867-2115
FX:                             Em: dal_allan@mcimail.com
Em:


Ms. Constance Kephart  (P)       Mr. Jim Jones  (A)
Exabyte Corp.                    Exabyte Corp.
1685 38th Street                 1685 38th Street
Boulder, CO 80301                Boulder, CO 80301
Ph: (303) 417-7927               Ph: (303) 417-7457
FX: (303) 417-7829               FX: (303) 417-7829
Em: conniek@exabyte.com          Em: jimj@exabyte.com


Mr. Mark Hammang  (A)            Mr. Gary R. Stephens  (P)
FCPA Intellistor (Fujitsu)       FSI Consulting Services
2402 Clover Basin Dr.            1825 N. Norton
Longmont, CO 80503               Tucson, AZ 85719
Ph: (303) 682-6575               Ph: (520) 321-1725
FX: (303) 682-6401               FX: (520) 321-1725
Em: mhammang@intellistor.com     Em: 6363897@mcimail.com


Mr. Chris Nieves  (P)            Mr. Michael Nguyen  (O)
Fujitsu                          Fujitsu
2904 Orchard Pkwy.               2904 Orchard Pkwy
San Jose, CA 95134-2009          San Jose, CA 95134
Ph: (408) 894-3556               Ph: (408) 894-3542
FX: (408) 894-3901               FX: (408) 894-3901
Em: cnieves@fcpa.fujitsu.com     Em: michael.nguyen@fcpa.fujitsu.com


Mr. Don Vohar  (A)               Mr. Kevin R. Pokorney  (O)
Fujitsu (FCPA)                   Fujitsu Computer Products,Am
2904 Orchard Pkwy.               2402 Clover Basin Drive
San Jose, CA 95134               Longmont, CO 80503
Ph: (408) 894-3840               Ph: (303) 682-6649
FX: (408) 894-3748               FX: (303) 682-6401
Em: dvohar@fcpa.fujitsu.com      Em: pokorney@intellistor.com


Mr. Mike Nelson  (O)             Mr. Bob Thornton  (O)
Fujitsu Ltd.                     Fujitsu Takamisawa America
2 Longwalk Road                  250 E. Caribbean Dr.
Stockley Park Uxbridge           Sunnyvale, CA 94089
Middlesex UB11 1AB UK            Ph: (408) 745-4932
Ph: 81-573-4444                  FX: (408) 745-4971
FX: 81-573-2643                  Em: bthornto@fta.fujitsu.com
Em:


Ms. Liza Hunt  (XO)              Mr. Joel Urban  (P)
Global Engineering Documents     Harting Elektronik Inc.
15 Inverness Way East            1370 Bowes Road
Englewood, CO 80112-5704         Elgin, IL 60123
Ph:                             Ph: (847) 741-1500
FX:                             FX: (847) 741-8257
Em:                             Em:


Ms. Martina Kuhlmeyer  (A)       Mr. Michael Weilert  (O)
Harting Elektronik Inc.          Health Liability Mgmt. Corp.
1370 Bowes Road                  Suite 100
Elgin, IL 60123                  13738 Oxbow Road
Ph: (847) 741-1500               Fort Myers, FL 33905
FX: (847) 741-8257               Ph: (941) 693-2962
Em: martinaku@aol.com            FX: (941) 693-2962
                                Em:
```

Mr. J. R. Sims (P)   Mr. William Martin (A)
Hewlett Packard Co.   Hewlett Packard Co.
800 S. Taft Ave.   8000 Foothills Blvd MS 5601
Loveland, CO 80537   Roseville, CA 95747-5601
Ph: (970) 635-6774   Ph: (916) 785-4517
FX: (970) 635-6610   FX: (916) 785-2875
Em: robsims@hootie.lvld.hp.com   Em: wrm@core.rose.hp.com

Mr. Donald C. Loughry (XO)   Mr. Bill Hutchison (O)
Hewlett Packard Co.   Hewlett Packard Co.
M/S 43UC   NCITS Vice Chair   P.O. Box 15
19420 Homestead Rd.   Boise, ID 83707-0015
Cupertino, CA 95014   Ph: (208) 396-3369
Ph: (408) 447-2454   FX: (208) 396-5117
FX: (408) 447-2247   Em: hutch@boi.hp.com
Em: don_loughry@hp6600.desk.hp.com

Mr. Steve Krupa (O)   Mr. Ruben Yomtoubian (O)
Hewlett Packard Co.   Hitachi America
Filton Road   3101 Tasman Dr.
Stoke Gifford   Santa Clara, CA 95054
Bristol BS12 6QZ England   Ph: (408) 986-9770 x467
Ph: FX: (408) 986-1821
FX: Em: r_yomtoubian@hitachi.com
Em:

Mr. Zane Daggett (P)   Mr. Kirk Rogers (A)
Hitachi Cable Manchester,Inc   Hitachi Cable Manchester,Inc
900 Holt Ave.   900 Holt Ave.
Manchester, NH 03109   Manchester, NH 03109
Ph: (603) 669-4347 x236   Ph: (603) 669-4347
FX: (603) 669-9621   FX: (603) 669-9621
Em: zdaggett@hcm.hitachi.com   Em: krogers@hcm.hitachi.com

Mr. Paul Boulay (A)   Mr. Hitoshi Ogawa (O)
Hitachi Computer Systems Div   Hitachi Ltd.
3101 Tasman Drive   Systems Development Lab
Santa Clara, CA 95054   292 Yoshida-Cho
Ph: (408) 986-9770 x205   Yokohama-Shi 244 Japan
FX: (408) 986-1821   Ph: 1181-45881-1241
Em: p_boulay@hitachi.com   FX: 1181-45860-1674
                                             Em: hogawa@yokolab.sdl.hitachi.co.jp

Mr. Nedi Nadershahi (P)   Mr. Anthony Yang (P)
Hitachi Micro Systems, Inc.   Hitachi Storage Products
179 Tasman Dr.   3101 Tasman Drive M/S 75
San Jose, CA 95134   Santa Clara, CA 95054
Ph: (408) 456-2006   Ph: (408) 748-2806
FX: (408) 433-0223   FX: (408) 235-8942
Em: nnadersh@hmsi.com   Em: yang_a@halsp.hitachi.com

Mr. Quang Vuong (A)   Mr. Thomas J. Kulesza (P)
Hitachi Storage Products   Honda Connectors
3101 Tasman Drive M/S 75   960 Corporate Woods Parkway
Santa Clara, CA 95054   Vernon Hill, IL 60061
Ph: (408) 748-2806   Ph: (847) 913-9566
FX: (408) 235-8942   FX: (847) 913-9587
Em: vuong_q@halsp.hitachi.com   Em: tkulesza@hondaconnectors.com

Mr. Terry Enright (A)   Mr. George Penokie (P)
Honda Connectors   IBM Corp.
960 Corporate Woods Parkway   2B7/114-2
Vernon Hill, IL 60061   37st Highway 52 N.

33

Ph: (847) 913-9566   Rochester, MN 55901-7829
FX: (847) 913-9587   Ph: (507) 253-5208
Em: FX: (507) 253-2432
                                            Em: gop@us.ibm.com

Mr. Dan Colegrove (A#)   Mr. John P. Scheible (A)
IBM Corp.   IBM Corp.
LJ4/012   Bldg 815 MS 4051
5600 Cottle Rd.   11400 Burnett Rd.
San Jose, CA 95193   Austin, TX 78758
Ph: (408) 256-1978   Ph: (512) 823-8208
FX: (408) 256-1044   FX: (512) 823-0758
Em: colegrov@us.ibm.com   Em: Scheible@vnet.ibm.com

Mr. Robert Basham (O)   Mr. Larry Ko (O)
IBM Corp.   Initio Corp.
65U/031-Z   2188 B Del Franco Street
9000 S. Rita Rd.   San Jose, CA 95131
Tucson, AZ 85744   Ph: (408) 965-5016
Ph: (520) 799-4923   FX: (408) 577-0640
FX: Em: larryk@inito.com
Em: robbyb@vnet.ibm.com

Mr. Geoffrey Barton (O)   Ms. Katrina Gray (L)
Iomega Corp.   ITI (NCITS Secretariat)
1821 West 4000 South   1250 Eye St. NW
Roy, UT 84067   Suite 200
Ph: (801) 778-3655   Washington, DC 20005-3922
FX: (801) 778-4667   Ph: (202) 626-5741
Em: glbarton@iomega.com   FX: (202) 638-4922
                                            Em: kgray@itic.nw.dc.us

Mr. Don Chambers (O)   Mr. Dennis Moore (P)
JAE Electronics Inc.   KnowledgeTek, Inc.
Suite 100   7230 West 119th Pl, Suite C
142 Technology Drive   Broomfield, CO 80020
Irvine, CA 92718-2401   Ph: (303) 465-1800
Ph: (714) 753-2679   FX: (303) 426-1350
FX: Em: dmoore@netcom.com
Em:

Mr. Dean Wallace (P)   Mr. Louis Grantham (A)
Linfinity Micro   Linfinity Micro
11861 Western Ave.   101 W. McDermott
Garden Grove, CA 92641   Allen, TX 75013
Ph: (714) 898-8121   Ph: (972) 396-7002
FX: (714) 893-2570   FX: (972) 396-7533
Em: 75671.3443@compuserve.com   Em: lgdatcom@ix.netcom.com

Mr. Alan Littlewood (P)   Mr. Robert Bellino (P)
LSI Logic Corp.   Madison Cable Corp.
1525 McCarhy Blvd.   125 Goddard Memorial Dr.
San Jose, CA 95035   Worchester, MA 01603
Ph: (408) 433-7765   Ph: (508) 752-7320
FX: FX: (508) 752-4230
Em: alanl@lsil.com   Em:
                                            robert_bellino@madisonusa.ccmail.compu
                                            serve.com

Mr. Chuck Grant (A)   Mr. Pete McLean (P)
Madison Cable Corp.   Maxtor Corp.
125 Goddard Memorial Drive   2190 Miller Dr.
Worcester, MA 01603   Longmont, CO 80501
Ph: (508) 752-2884 x725   Ph: (303) 678-2149
FX: (508) 752-4230   FX: (303) 678-2165
Em: Em: pete_mclean@maxtor.com
charles_grant@madisonusa.ccmail.compus

erve.com
Mr. LeRoy Leach (O)
Maxtor Corp.
2190 Miller Dr.
Longmont, CO 80501-6744
Ph: (303) 678-2828
FX: (303) 678-2308
Em: leroy_leach@maxtor.com

Mr. Bob Masterson (P)
Methode Electronics, Inc.
7444 West Wilson Ave
Chicago, IL 60656
Ph: (708) 867-9600
FX: (708) 867-3149
Em: rwmast@methode.com

Mr. John Cannon (O)
Methode Electronics, Inc.
7444 West Wilson Ave
Chicago, IL 60656
Ph: (708) 867-9600
FX: (708) 867-9130
Em:

Mr. Jay Neer (A)
Molex Inc.
399 W. Camino Gardens Blvd.
Suite 103
Boca Raton, FL 33432
Ph: (561) 447-2907
FX: (561) 447-2908
Em: jneer@molex.com

Mr. Tom Luan (O)
NEC Electronics Inc.
M/S 2300
2880 Scott Blvd
Santa Clara, CA 95052-8062
Ph: (408) 588-5422
FX: (408) 588-5463
Em: tom.luan@el.nec.com

Mr. Chris Smith (O)
NEC Systems Laboratory Inc.
110 Rio Robles Ave.
San Jose, CA 95134
Ph: (408) 434-7122
FX: (408) 434-7119
Em:

Mr. Robin Freeze (P)
Oak Technology, Inc.
139 Kifer Court
Sunnyvale, CA 94086
Ph: (408) 523-6652
FX:
Em: RobinF@oaktech.com

Mr. Tony Lee (A)
Oak Technology, Inc.
139 Kifer Court

Mr. Randy Banton (O)
Mercury Computer
199 Riverneck Road
Chelmsford, MA 01824
Ph: (508) 256-1300 x134
FX:
Em:

Mr. Frank Samela (A)
Methode Electronics, Inc.
7444 W. Wilson Ave.
Chicago, IL 60148
Ph: (708) 867-9600
FX: (708) 867-0346
Em: franksam@methode.com

Mr. Joe Dambach (P)
Molex Inc.
2222 Wellington Court
Lisle, IL 60532
Ph: (708) 527-4546
FX: (708) 969-1352
Em: jdambach@molex.com

Mr. Ken Keller (O)
Motorola Inc.
1101 E. University
Urbana, IL 61801
Ph: (217) 384-8596
FX:
Em:

Mr. E. Jake Berzon (O)
NEC Electronics, Inc.
2880 Scott Blvd. MS SC2200
Santa Clara, CA 95052-8062
Ph: (408) 588-5408
FX: (408) 588-5464
Em: jberzon@asic.mtv.nec.com

Mr. Shinobu Yonemitsu (O)
NEC Technologies Inc.
Reg Manager Storage
339 North Bernardo
Mountain View, Ca 94043-5223
Ph: (408) 433-1486
FX: (408) 434-7124
Em:

Mr. Lam Dang (A#)
Oak Technology, Inc.
139 Kifer Court
Sunnyvale, CA 94086
Ph: (408) 523-6643
FX:
Em: LamD@oaktech.com

Mr. Edward A. Gardner (P)
Ophidian Designs
1262 Hofstead Terrace

Sunnyvale, CA 94086
Ph: (408) 523-6665
FX:
Em: TonyL@oaktech.com

Mr. Dan Davies (O)
Overland Data Inc.
8975 Balboa Ave.
San Diego, CA 92123-1599
Ph: (619) 571-5555 x213
FX: (619) 571-3664
Em: ddavies@ovrland.com

Mr. George Ayer (O)
Panduit Corporation
412 Rockwell Court
Burr Ridge, IL 60521
Ph: (708) 887-1000
FX: (708) 887-0230
Em:

Mr. William P. McFerrin (P)
Philips Key Modules
1860 Lefthand Circle
Longmont, CO 80501
Ph: (303) 651-5408
FX: (303) 682-3029
Em: BMcFerrin@aol.com

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

Mr. James McGrath (P)
Quantum Corp.
500 McCarthy Blvd.
Milpitas, CA 95035
Ph: (408) 894-4504
FX: (408) 894-6375
Em: JMCGRATH@QNTM.COM

Mr. John A. Fobel (O)
Rancho Technology, Inc.
10783 Bell Court
Rancho Cucamonga, CA 91730
Ph: (909) 987-3966
FX: (909) 989-2365
Em: johnf@rancho.com

Mr. Gene Milligan (P)
Seagate Technology
MS OKM 251
P. O. Box 12313
Oklahoma City, OK 73157
Ph: (405) 324-3070
FX: (405) 324-3794

Colorado Springs, CO 80907
Ph: (719) 593-8866
FX: (719) 593-8989
Em: eag@ophidian.com

Mr. Stephen F. Heil (O)
Panasonic Technologies, Inc
2 Research Way, 3rd Floor
Princeton, New Jersey 08540
Ph: (609) 987-3948
FX: (609) 987-0483
Em: sfh@research.panasonic.com

Mr. Randall C. Hines (A)
Philips Electronics
1860 Lefthand Circle
Longmont, CO 80501
Ph: (303) 651-5406
FX: (303) 682-3029
Em: hinesr@worldnet.att.net

Mr. Sunil Nethisinghe (O)
Philips Semiconductors MS 52
811 E. Arques Ave.
Sunnyvale, CA 94088
Ph: (408) 991-4540
FX: (408) 991-4500
Em: nethisin@scs.philips.com

Mr. Ting Li Chan (A)
QLogic Corp.
3545 Harbor Blvd.
P.O. Box 6725
Costa Mesa, CA 92626
Ph: (714) 668-5058
FX: (714) 688-5008
Em: t_chan@qlc.com

Mr. Mark Evans (A)
Quantum Corp.
500 McCarthy Blvd.
Milpitas, CA 95035
Ph: (408) 894-4019
FX: (408) 894-4990
Em: mevans@qntm.com

Mr. Ken-Ichi Kojima (O)
Sanyo Electric Co., Ltd.
180 Ohmori Anpachi-Cho
Anpachi-Gun
Gifu-Ken 503-01 Japan
Ph: 584-64-4399
FX: 584-64-5096
Em:

Mr. Gerald Houlder (A)
Seagate Technology
MPS043
8001 E. Bloomington Freeway
Bloomington, MN 55420-1094
Ph: (612) 806-2869
FX: (612) 806-2708

Em: Gene_Milligan@notes.seagate.com   Em: Gerry_Houlder@notes.seagate.com

Mr. Daniel (Dan) F. Smith (A#)   Mr. Toshiyuki Takahara (O)
Seagate Technology   Seiko Epson Corp.
4585 Scotts Valley Dr.   Corporate Res & Dev
Scotts Valley, CA 95066-4544   3-3-5 Owa Suma-Shi
Ph: (408) 439-7146   Nagano-Ken 392 Japan
FX: (408) 438-4846   Ph: 81-266-58-4241
Em: daniel_f_smith@notes.seagate.com FX: 81-226-58-1949
                                    Em:

Mr. Alan Gits (O)   Dr. Colin Whitby-Strevens (O)
Sequent Computer Systems   SGS-Thomson/INMOS
15450 S. Koll Parkway   1000, Aztec West
Beaverton, OR 97006   Almondsbury,
Ph: (503) 578-5824   Bristol, BS12 4SQ UK
FX: Ph: +44 454 611 500
Em: FX: +44 454 619 796
                                   Em: colinws@bristol.st.com

Mr. Siegfried Kunz (O)   Mr. Erhard Weiss (O)
Siemens Nixdorf   Siemens Nixdorf
Sys Unit BS2000   Depatment: SNI PC SB ESW
BS 2000 HE PS   Burgermeister-Ulrich-St
W-8000 Munchen 83 W. Germany   D-86199 Augsburg Germany
Ph: 98-636-46941   Ph: 49-821-804-3602
FX: 98-636-46999   FX: 49-821-804-2910
Em: Em: weiss.abg@sni.de

Mr. Dave Guss (P)   Mr. Stephen G. Finch (A)
Silicon Systems, Inc.   Silicon Systems, Inc.
14351 Myford Rd.   14351 Myford Road
Tustin, CA 92780   Tustin, CA 92780-7022
Ph: (714) 573-6824   Ph: (714) 573-6808
FX: (714) 573-6916   FX: (714) 573-6916
Em: dave.guss@tus.ssi1.com   Em: steve.finch@tus.ssi1.com

Mr. James Ryland (XO)   Mr. Dennis Pak (P)
Social Security Admin   Sony Electronics, Inc.
NCC Room 5110   OMC liaison   3300 Zanker Rd. MS# SJ-3B2
6201 Security Blvd.   San Jose, CA 95134
Baltimore, MD 21234-0001   Ph: (408) 955-5247
Ph: (410) 965-2166   FX: (408) 955-5066
FX: (410) 966-1893   Em: dennis_pak@asd.sel.sony.com
Em: JRYLAND@SSA.SSW.DHHS.GOV

Mr. Janek Rebalski (A)   Mr. Rich Wahler (O)
Sony Electronics, Inc.   Standard Microsystems Corp.
3300 Zanker Rd.   300 Kennedy Drive
San Jose, CA 95134   Hauppauge, NY 11788
Ph: (415) 955-4535   Ph: (516) 435-6174
FX: (415) 955-5066   FX: (516) 724-1505
Em: janek_rebalski@asd.sel.sony.com Em:

Mr. Erich Oetting (P)   Mr. Doug Charnley (A)
Storage Technology Corp.   Storage Technology Corp.
2270 South 88th St.   2270 South 88th St. MS 0211
Louisville, CO 80028-0268   Louisville, CO 80028-0211
Ph: (303) 673-2178   Ph: (303) 661-7271
FX: (303) 673-8196   FX: (303) 673-8196
Em: erich_oetting@stortek.com   Em: doug_charnley@stortek.com

Mr. Robert N. Snively (P)   Mr. Vit Novak (A)
Sun Microsystems Computer Co   Sun Microsystems, Inc.

Mail Stop UMPK 12-204   Mail Stop 15-46
2550 Garcia Avenue   2550 Garcia Ave.
Mountain View, CA 94043-1100   Mountain View, CA 94043-1100
Ph: (415) 786-6694   Ph: (415) 336-2455
FX: (415) 786-6458   FX: (415) 968-4873
Em: bob.snively@eng.sun.com   Em: vit.novak@sun.com

Mr. John Lohmeyer (P)   Mr. Rod DeKoning (A#)
Symbios Logic Inc.   Symbios Logic Inc.
4420 ArrowsWest Dr.   3718 N. Rock Rd.
Colorado Springs, CO 80907   Wichita, KS 67226
Ph: (719) 533-7560   Ph: (316) 636-8842
FX: (719) 533-7036   FX: (316) 636-8889
Em: john.lohmeyer@symbios.com   Em: rod.dekoning@symbios.com

Mr. Ralph O. Weber (A)   Mr. Patrick Mercer (P)
Symbios Logic Inc.   SyQuest Technology, Inc.
Suite 400   47071 Bayside Parkway
12377 Merit Drive   Fremont, CA 94538-6517
Dallas, TX 75251   Ph: (510) 226-4215
Ph: (972) 503-3205 x228   FX: (510) 226-4104
FX: (972) 503-2258   Em: patrick.mercer@syquest.com
Em: roweber@acm.org

Mr. Brian McKean (A)   Mr. Erik Solhjell (O)
SyQuest Technology, Inc.   Tandberg Data
3005 Center Green Drive   A/S
Suite 100   P.O. Box 9 Korsvoll
Boulder, CO 80301   N-0808 Oslo 8 Norway
Ph: (303) 938-2940   Ph: 11-47-218-9090
FX: (303) 938-2987   FX:
Em: brian.mckean@syquest.com   Em:

Mr. Pete Tobias (P)   Mr. Jack Shiao (A)
Tandem Computers   Tandem Computers
Loc 100-03   Loc 3-8
10555 Ridgeview Ct.   19333 Vallco Parkway
Cupertino, CA 95014-0789   Cupertino, CA 95014
Ph: (408) 285-9913   Ph: (408) 285-6567
FX: (408) 285-9924   FX: (408) 285-6230
Em: tobias_pete@tandem.com   Em: jack@loc3.tandem.com

Mr. Alan Wetzel (O)   Mr. Kevin Gingerich (O)
Texas Instruments   Texas Instruments, Inc.
M/S 8206   P.O. Box 660199 M/S 8710
PO Box 655303   Dallas, TX 75266-0199
Dallas, TX 75265   Ph: (214) 480-3378
Ph: FX: (214) 480-3535
FX: Em: k-gingerich@ti.com
Em:

Mr. Steven Walker (O)   Mr. Tokuyuki Totani (P)
Thomas & Betts   Toshiba America Info Sys
1555 Lynnfield Rd.   9740 Irvine Blvd.
Memphis, TN 38119   Irvine, CA 92618
Ph: (901) 680-5992   Ph: (714) 461-4828
FX: (901) 537-8805   FX: (714) 583-3133
Em: walkertnb@aol.com   Em: totani@ix.netcom.com

Mr. Kenneth J. Hallam (P)   Mr. Arlan P. Stone (A)
UNISYS Corporation   UNISYS Corporation
MV201   MS 201
25725 Jeronimo Road   25725 Jeronemo Rd.
Mission Viejo, CA 92691   Mission Viejo, CA 92691
Ph: (714) 380-5115   Ph: (714) 380-5982

```
FX: (714) 380-5858                      FX: (714) 380-5858
Em: ken.hallam@mv.unisys.com            Em: arlan.stone@unisys.com


Mr. Dave Wehrman  (O)                   Mr. Paul D. Aloisi  (P)
UNISYS Corporation                      Unitrode Corporation
11716 Highridge                         MS: 84
Pinckney, MI 48169                      7 Continental Blvd
Ph: (313) 426-8847                      Merrimack, NH 03054
FX: (313) 426-8847                      Ph: (603) 429-8687
Em: dwehrman@unisys.com                 FX: (603) 429-8963
                                        Em: aloisi@unitrode.com


Ms. Francis Terry  (A)                  Mr. Eric Swartz  (O)
Unitrode Corporation                    Verisys
7 Continental Blvd                      2901-B Research Park Dr.
Merrimack, NH 03054-0399                Soquel, CA 95073
Ph: (603) 429-8713                      Ph: (408) 464-4292
FX: (603) 429-8963                      FX: (408) 464-4250
Em: terry@unitrode.com                  Em: eric@verisys.com


Mr. Michael G. Kaminski  (O)            Mr. Jeffrey L. Williams  (P)
Volex Inc.                              Western Digital Corporation
835 Sinclair Frontage Road              1599 N. Broadway Ave.
Milpitas, CA 95035                      Rochester, MN 55906
Ph: (408) 945-7766                      Ph: (507) 286-7589
FX: (408) 945-4360                      FX: (507) 286-7528
Em: Mike_Kaminski@volex.com             Em: jwilliam@wdroc.wdc.com


Mr. Jonathan L. Hanmann  (A#)           Mr. Devon Worrell  (A)
Western Digital Corporation             Western Digital Corporation
8105 Irvine Ctr. Dr.                    8105 Irvine Ctr. Dr.
Irvine, CA 92618                        Irvine, CA 92618
Ph: (714) 932-5189                      Ph: (714) 932-7042
FX: (714) 932-7097                      FX: (714) 932-7796
Em: jhanmann@dt.wdc.com                 Em: worrell@dt.wdc.com


Mr. Doug Piper  (P)                     Mr. E.J. Mondor  (A)
Woven Electronics                       Woven Electronics
PO Box 189                              PO Box 189
Mauldin, SC 29662                       Mauldin, SC 29662
Ph: (803) 967-1751                      Ph: (803) 967-1739
FX: (803) 963-1761                      FX: (803) 963-1761
Em: doug.piper@internetmci.com          Em: 549.9900@mcimail.com


Mr. Michael Chalgren  (O)               Mr. Arnold Limjoco  (O)
Xiotech Corporation                     Yamaichi Electronics
#200                                    2235 Zanker Rd.
6509 Flying Cloud Drive                 San Jose, CA 95131
Eden Prairie Mn 55344                   Ph: (408) 456-0797 x134
Ph: (612) 828-5984                      FX: (408) 456-0799
FX: (612) 828-5990                      Em: arnold.l@yeu.com
Em: mchalgren@xiotech.com
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         July 21, 1997 - T10 Document Register - Enclosure (3)

T10/97-001R0   Date: 11/22/96 Author: J. Lohmeyer [SY-97-01]
Agenda for X3T10 Meeting #20 (Mar '97)

T10/97-002R0   Date: 11/22/96 Author: J. Lohmeyer [SY-97-01]
X3T10 Project Summary - Jan '97

T10/97-003R0   Date: 11/22/96 Author: J. Lohmeyer [SY-97-01]
Jeopardy letter for Mar '97 meeting

T10/97-004R0   Date: 11/22/96 Author: J. Lohmeyer [SY-97-01]
Results of X3T10/96-045 Letter Ballot

T10/97-005R0   Date: 11/22/96 Author: J. Lohmeyer [SY-97-01]
Response to 1PR Comment #1 on X3.301-199x (SPC)

T10/97-006R0   Date: 11/22/96 Author: J. Lohmeyer [SY-97-01]
Response to 1PR Comment #2 on X3.301-199x (SPC)

T10/97-007R0   Date: 3/10/97 Author: J. Garner [SY-97-01]
Call for Volunteers - Chairman T10

T10/97-007R1   Date: 3/10/97 Author: J. Garner [SY-97-02]
Second Call for Volunteers - Chairman T10

T10/97-008R0   Date: 1/22/97 Author: J. Lohmeyer [SY-97-02]
Agenda for X3T10 Meeting #21 (May '97)

T10/97-009R0   Date: 1/22/97 Author: J. Lohmeyer []
T10 Project Summary - Mar '97

T10/97-009R1   Date: 1/22/97 Author: J. Lohmeyer [SY-97-02]
T10 Project Summary - Mar '97

T10/97-010R0   Date: 1/22/97 Author: J. Lohmeyer [SY-97-02]
Jeopardy letter for May '97 meeting

T10/97-011R0   Date: 1/22/97 Author: J. Lohmeyer [SY-97-02]
Results of T10/96-046 Letter Ballot on forwarding SSA-PH2 to 1PR

T10/97-012R0   Date: 1/22/97 Author: J. Lohmeyer [SY-97-02]
Results of T10/96-047 Letter Ballot on forwarding SSA-TL2 to 1PR

T10/97-013R0   Date: 1/22/97 Author: J. Lohmeyer [SY-97-02]
Results of T10/96-048 Letter Ballot on forwarding SSA-S3P to 1PR

T10/97-014R0   Date: 3/18/97 Author: J. Lohmeyer [SY-97-02]
Response to Public Review Comment #1 on X3.304 (MMC) (see 97-127)

T10/97-015R0   Date: 3/19/97 Author: J. Lohmeyer [SY-97-02]
Letter Ballot on forwarding SSC to 1PR

T10/97-016R0   Date: 4/8/97 Author: J. Lohmeyer [SY-97-03]
Agenda for T10 Meeting #22 (July '97)

T10/97-017R0   Date: 4/8/97 Author: J. Lohmeyer [SY-97-03]
T10 Project Summary - May '97

T10/97-018R0   Date: 4/8/97 Author: J. Lohmeyer [SY-97-03]
Jeopardy letter for May '97 meeting

T10/97-019R0   Date: 4/8/97 Author: J. Lohmeyer []
(not used)

T10/97-020R2   Date: 5/15/97 Author: J. Lohmeyer [SY-97-03]
Results of T10/97-015 Letter Ballot on forwarding SSC to 1PR

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T10/97-021R0          Date: 4/8/97  Author: J. Lohmeyer  [SY-97-03]
Letter forwarding SCSI World Wide Names description to IEEE

T10/97-022R0          Date: 4/8/97  Author: J. Lohmeyer  [SY-97-03]
T10 Annual Report for 1996

T10/97-023R0          Date: 5/27/97  Author: J. Lohmeyer  [SY-97-04]
Agenda for T10 Meeting #23 (Sept '97)

T10/97-024R0          Date: 5/27/97  Author: J. Lohmeyer  [SY-97-04]
T10 Project Summary - July '97

T10/97-025R0          Date: 5/27/97  Author: J. Lohmeyer  [SY-97-04]
Jeopardy letter for July '97 meeting

T10/97-026R0          Date: 5/27/97  Author: G. Milligan  [SY-97-04]
Letter Ballot on approving DIS 14776-411 SAM

T10/97-027R0          Date: 6/5/97  Author: J. Lohmeyer  [SY-97-04]
Results of Letter Ballot on approving DIS 14776-411 SAM (97-026r0)

T10/97-101R1          Date: 1/2/97  Author: R. Snively  [SY-97-01]
Draft tutorial for IEEE company_id based SCSI identifiers

T10/97-101R2          Date: 1/2/97  Author: R. Snively  [SY-97-04]
Draft tutorial for IEEE company_id based SCSI identifiers

T10/97-102R0          Date: 1/2/97  Author: R. Roberts  [SY-97-01]
MMC-2 Additional Definitions

T10/97-103R0          Date: 1/2/97  Author: R. Roberts  [SY-97-01]
MMC-2   DVD MODEL

T10/97-104R0          Date: 1/2/97  Author: R. Roberts  [SY-97-01]
MMC-2   CD MODEL

T10/97-105R0          Date: 1/2/97  Author: R. Roberts  [SY-97-01]
MMC-2   CHANGER   MODEL

T10/97-106R0          Date: 1/2/97  Author: R. Roberts  [SY-97-01]
MMC-2   DVD POWER MANAGEMENT

T10/97-107R0          Date: 1/2/97  Author: R. Roberts  [SY-97-01]
MMC-2   FEATURE SETS

T10/97-108R0          Date: 1/2/97  Author: R. Roberts  [SY-97-01]
MMC-2   Packet Commands for C/DVD Devices

T10/97-109R0          Date: 1/2/97  Author: R. Roberts  [SY-97-01]
Minutes of MMC 2 Working Group - 1/97

T10/97-110R1          Date: 1/6/97  Author: Weber/Lohmeyer  [SY-97-01]
Minutes of SPI-2 Working Group - 1/97

T10/97-111R1          Date: 1/6/97  Author: Weber/Lohmeyer  [SY-97-01]
Minutes of SCSI  Working Group - 1/97

T10/97-112R1          Date: 1/6/97  Author: Weber/Lohmeyer  [SY-97-01]
Minutes of X3T10 Plenary Meeting #19

T10/97-113R0          Date: 1/6/97  Author: G. Penokie  [SY-97-01]
Minutes of SCC Working Group - 1/97

T10/97-114R0          Date: 1/6/97  Author: B. Ham  [SY-97-01]
Test Results on LVD
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T10/97-115R0   Date: 1/6/97   Author: L. Lamers [SY-97-01]
Report on SPI-2 Editing Session

T10/97-115R1   Date: 4/22/97 Author: L. Lamers [SY-97-03]
Report on SPI-2 Editing Session

T10/97-116R0   Date: 1/6/97   Author: B. Ham [SY-97-02]
Bus Set Delay for Domain Expanders

T10/97-117R0   Date: 1/6/97   Author: R. Roberts [SY-97-01]
MMC-2 Commands specific to CD Media Only

T10/97-118R0   Date: 1/6/97   Author: R. Roberts [SY-97-01]
MMC-2 ATAPI Implementation Notes

T10/97-119R0   Date: 1/6/97   Author: R. Roberts [SY-97-01]
MMC-2 SCSI Implementation Notes

T10/97-120R0   Date: 1/6/97   Author: R. Roberts [SY-97-01]
MMC-2 DVD-R and DVD-RAM

T10/97-121R0   Date: 1/8/97   Author: D. Wallace [SY-97-04]
Annex on Universal Backplane

T10/97-122R0   Date: 1/8/97   Author: G. Penokie [SY-97-01]
Addressing Model for SAM-2

T10/97-122R1   Date: 1/8/97   Author: G. Penokie []
Addressing Model for SAM-2

T10/97-122R2   Date: 5/6/97   Author: G. Penokie [sy-97-03]
Addressing Model for SAM-2

T10/97-123R0   Date: 1/8/97   Author: G. Milligan [SY-97-01]
SBC X3T10 Letter Ballot Comment Resolution

T10/97-124R0   Date: 1/8/97   Author: T. Coughlan [SY-97-01]
Do Read Long and Write Long have a Secure Future?

T10/97-125R1   Date: 1/9/97   Author: E. Oetting [SY-97-01]
Minutes of SCC/SMC Working Group - 1/97

T10/97-126R0   Date: 1/16/97 Author: R. DeKoning [SY-97-01]
Comments on IEEE Registration

T10/97-127R0   Date: 1/16/97 Author: R. Reisch [SY-97-01]
Public Review Comment #1 on X3.304 (MMC)

T10/97-128R1   Date: 1/22/97 Author: P. Johansson []
Transport Status for SBP-2

T10/97-128R2   Date: 1/22/97 Author: P. Johansson [SY-97-02]
Transport Status for SBP-2

T10/97-129R0   Date: 1/29/97 Author: Keith W. Parker []
SCSI Socket/SSL Services (SSS) Command Set Proposal

T10/97-129R1   Date: 1/29/97 Author: Keith W. Parker []
SCSI Socket/SSL Services (SSS) Command Set Proposal

T10/97-129R2   Date: 1/29/97 Author: Keith W. Parker [SY-97-02]
Project Proposal for SCSI Socket/SSL Services (SSS) Command Set

T10/97-130R0   Date: 2/6/97   Author: J. Scheible [SY-97-02]
Letter Ballot Comment Resolution on SSA-PH2

T10/97-131R0   Date: 2/6/97   Author: J. Scheible []

Letter Ballot Comment Resolution on SSA-TL2

T10/97-131R1   Date: 2/6/97 Author: J. Scheible [SY-97-02]
Letter Ballot Comment Resolution on SSA-TL2

T10/97-132R0   Date: 2/6/97 Author: J. Scheible [SY-97-02]
Letter Ballot Comment Resolution on SSA-S3P

T10/97-133R0   Date: 2/9/97 Author: P. Johansson [SY-97-02]
REQUEST ABORTED Response Status in SBP-2

T10/97-134R0   Date: 2/9/97 Author: P. Johansson []
Unsolicited Status Handshake in SBP-2

T10/97-134R1   Date: 2/9/97 Author: P. Johansson [SY-97-02]
Unsolicited Status Handshake in SBP-2

T10/97-135R0   Date: 2/13/97 Author: P. McLean [SY-97-02]
Minutes of SBP-2 Working Group - 2/12-13/97

T10/97-136R0   Date: 2/24/97 Author: P. Johansson [SY-97-02]
Task management event matrix

T10/97-137R0   Date: 3/3/97 Author: Weber/Lohmeyer [SY-97-02]
Minutes of SPI-2 Working Group - 3/97

T10/97-138R0   Date: 3/3/97 Author: Weber/Lohmeyer []
Minutes of SCSI Working Group - 3/97

T10/97-138R1   Date: 3/3/97 Author: Weber/Lohmeyer [SY-97-02]
Minutes of SCSI Working Group - 3/97

T10/97-139R0   Date: 3/3/97 Author: Weber/Lohmeyer [SY-97-02]
Minutes of T10 Plenary Meeting #20

T10/97-139R1   Date: 3/3/97 Author: Weber/Lohmeyer [SY-97-02]
Minutes of T10 Plenary Meeting #20

T10/97-140R0   Date: 3/3/97 Author: G. Penokie [SY-97-02]
Additional Device Types for ASC/ASCQ

T10/97-141R0   Date: 3/3/97 Author: G. Penokie []
Message Issues

T10/97-141R1   Date: 3/3/97 Author: G. Penokie []
Message Issues

T10/97-141R2   Date: 3/3/97 Author: G. Penokie []
Message Issues

T10/97-141R3   Date: 3/3/97 Author: G. Penokie [SY-97-02]
Message Issues

T10/97-142R0   Date: 3/3/97 Author: G. Penokie []
Reserve/Release Issues

T10/97-142R1   Date: 3/3/97 Author: G. Penokie [SY-97-02]
Reserve/Release Issues

T10/97-143R0   Date: 3/5/97 Author: C. Monia [SY-97-02]
Digital Equipment Corp. SCAM Patent Disclosure

T10/97-144R0   Date: 3/10/97 Author: B. Ham [SY-97-02]
LVD Hot Plugging Results - 3/10/96

T10/97-145R0   Date: 3/10/97 Author: Keith W. Parker [SY-97-02]
Presentation on SCSI Socket/SSL Services

T10/97-146R0   Date: 3/10/97 Author: V. Bastiani [SY-97-02]
Presentation on LVD/Ultra-3

T10/97-147R0   Date: 3/10/97 Author: G. Penokie [SY-97-02]
Minutes of SCC Working Group - 3/97

T10/97-148R1   Date: 3/11/97 Author: Eric Oetting [SY-97-02]
SMC Device Identification

T10/97-149R0   Date: 3/11/97 Author: P. McLean [SY-97-02]
Minutes of SBP-2 Working Group - 3/97

T10/97-150R0   Date: 3/11/97 Author: J. McGrath [SY-97-02]
Parallel SCSI Performance

T10/97-151R0   Date: 3/12/97 Author: C. Monia [SY-97-02]
Status of SCSI Error Recovery

T10/97-152R0   Date: 3/12/97 Author: R. Roberts [SY-97-02]
MMC-1 Public Review Comments Resolution

T10/97-153R0   Date: 3/12/97 Author: R. Roberts [SY-97-02]
Minutes of the MMC Working Group - 3/97

T10/97-154R0   Date: 3/13/97 Author: E. Oetting [SY-97-02]
Minutes of SMC Working Group - 3/97

T10/97-155R1   Date: 3/24/97 Author: D. Hagerman [SY-97-02]
Tapes in FC PLDA

T10/97-155R2   Date: 3/24/97 Author: D. Hagerman []
Tapes in FC PLDA

T10/97-155R3   Date: 3/24/97 Author: D. Hagerman [SY-97-04]
Tapes in FC PLDA

T10/97-156R0   Date: 3/28/97 Author: Kate McMillan [SY-97-02]
Proposed New SD3 Project Proposal Guide

T10/97-157R2   Date: 4/15/97 Author: J. Fuller [SY-97-04]
SBP-2 ORB Grouping for Non-Sequential Execution

T10/97-158R1   Date: 4/15/97 Author: J. Fuller []
SBP-2 Enhanced Page Tables

T10/97-158R2   Date: 4/15/97 Author: J. Fuller [SY-97-03]
SBP-2 Enhanced Page Tables

T10/97-159R0   Date: 4/15/97 Author: D. Steele / F. Gasparik
[SY-97-03]
FAST-40 Rebuttal

T10/97-160R1   Date: 4/15/97 Author: Weber/Lohmeyer [SY-97-03]
Minutes of SPI-2 Working Group - 4/18/97

T10/97-161R0   Date: 4/15/97 Author: P. McLean [SY-97-03]
Minutes of the SBP-2 Working Group - 4/10/97

T10/97-162R0   Date: 4/15/97 Author: P. McLean [SY-97-03]
Project proposal for command definition for mass storage on 1394

T10/97-163R0   Date: 4/18/97 Author: M. LoBue [SY-97-03]
STA Recommendations on Ultra-3

T10/97-164R0   Date: 4/18/97 Author: V. Bastiani [SY-97-03]
Presentation on Test Results for Ultra-3

```
T10/97-165R0          Date: 4/18/97  Author: W. Bridgewater  [SY-97-03]
First Pulse Measurements

T10/97-166R0          Date: 4/18/97  Author: F. Gasperik  [SY-97-03]
Analysis of Data presented

T10/97-166R1          Date: 4/18/97  Author: F. Gasperik  [SY-97-04]
Analysis of Data presented

T10/97-167R0          Date: 4/18/97  Author: L. Barnes  []
SCSI Universal Backplane Microstrip Configuration

T10/97-167R1          Date: 4/18/97  Author: L. Barnes  [SY-97-04]
SCSI Universal Backplane Microstrip Configuration

T10/97-168R0          Date: 4/18/97  Author: B. Ham  []
FAST 40 AND FAST 80 DATA FROM MULTIMODE BACKPLANES

T10/97-168R1          Date: 4/18/97  Author: B. Ham  [SY-97-04]
FAST 40 AND FAST 80 DATA FROM MULTIMODE BACKPLANES

T10/97-169R0          Date: 4/22/97  Author: K. Gingerich  [SY-97-03]
Simplified AC Model of the LVD SCSI  Bus

T10/97-170R1          Date: 4/26/97  Author: G. Penokie  [SY-97-03]
Additional Device Types for ASC/ASCQs for SCC-2

T10/97-171R0          Date: 4/26/97  Author: G. Penokie  [SY-97-03]
Minutes of the SCC-2 working group - 5/96

T10/97-172R0          Date: 4/28/97  Author: V. Bastiani  [SY-97-03]
Analysis of Driver/Reciever Response

T10/97-173R0          Date: 5/1/97  Author: P. McLean  [SY-97-04]
Mass Storage Profile for 1394 presentation

T10/97-174R0          Date: 5/1/97  Author: P. Aloisi  [SY-97-04]
Single Ended Termination Issues

T10/97-175R1          Date: 5/5/97  Author: Weber/Lohmeyer  [SY-97-03]
Minutes of SPI working group - 05/97

T10/97-176R1          Date: 5/5/97  Author: Weber/Lohmeyer  [SY-97-03]
Minutes of SCSI working group - 05/97

T10/97-177R1          Date: 5/5/97  Author: Weber/Lohmeyer  [SY-97-03]
Minutes of T10 Plenary Meeting - 05/97

T10/97-178R0          Date: 5/5/97  Author: V. Bastiani  [SY-97-03]
Presentation on Ultra-3 - 05/97

T10/97-179R0          Date: 5/5/97  Author: B. Ham  [SY-97-03]
TEST RESULTS WITH ASYMMETRICAL DRIVERS, BIAS TERMINATORS, AND COMPLEX LOADS

T10/97-180R0          Date: 5/5/97  Author: P. Aloisi  [SY-97-03]
Terminator Specifications

T10/97-181R0          Date: 5/5/97  Author: W. Bridgewater  [SY-97-03]
Presentation on LVD testing

T10/97-182R1          Date: 5/6/97  Author: V. Novak  [SY-97-04]
REQ/ACK Mismatch

T10/97-183R0          Date: 5/6/97  Author: Tom Coughlin  [SY-97-03]
Persistent Reservation-What if the keys are not unique?
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T10/97-184R0   Date: 5/6/97 Author: Doug Hagerman [SY-97-03]
Use of Class 2 for Fibre Channel Topics

T10/97-184R1   Date: 5/6/97 Author: Doug Hagerman [SY-97-04]
Use of Class 2 for Fibre Channel Topics

T10/97-185R0   Date: 5/6/97 Author: P. McLean [SY-97-03]
SBP-2 Error senarios

T10/97-186R1   Date: 5/6/97 Author: C. Monia [SY-97-03]
Request for Interpretation - Multiple-byte fields

T10/97-187R0   Date: 5/6/97 Author: C. Monia [SY-97-03]
Error Recovery Policy Requirements for Command Queueing

T10/97-188R0   Date: 5/8/97 Author: Eric Oetting [SY-97-03]
Minutes of SSC/SMC Working Group - 5/97

T10/97-189R0   Date: 5/8/97 Author: Eric Oetting [SY-97-03]
Class 3 Error Detection and Recovery

T10/97-190R0   Date: 5/8/97 Author: Rob Reisch [SY-97-03]
Minutes of MMC-2 Working Group - 5/97

T10/97-191R1   Date: 5/14/97 Author: Pete McLean [SY-97-03]
Minutes of SBP-2 Working Group - 5/97

T10/97-192R0   Date: 5/15/97 Author: Mike Bryan [SY-97-03]
Login Query move

T10/97-193R0   Date: 5/15/97 Author: Mike Bryan [SY-97-03]
Login modifications

T10/97-194R0   Date: 5/15/97 Author: Tarl Neustaedter [SY-97-04]
Proposal to add Unit_Model_Id to IEEE 1212 Config ROM

T10/97-195R0   Date: 6/5/97 Author: P. Johansson [SY-97-04]
Configuration ROM - Power Reset an d Security

T10/97-196R0   Date: 6/10/97 Author: P. Johansson [SY-97-04]
SBP-2 and 1394-1995 Transaction Errors

T10/97-197R0   Date: 6/17/97 Author: T. Asami [SY-97-04]
SCSI LFP - CRC Attach

T10/97-198R0   Date: 6/17/97 Author: T. Asami [SY-97-04]
SCSI LFP - Status / Message Simplification

T10/97-199R0   Date: 6/17/97 Author: M. Kosco [SY-97-04]
SCSI LFP - Quick Arbitrate & Select

T10/97-200R0   Date: 6/19/97 Author: M. Kosco [SY-97-04]
SCSI LFP - Broadcast Command Packet

T10/97-201R0   Date: 6/19/97 Author: K. Parker [SY-97-04]
SCSI Socket/SSL Services (SSS) Review 97-07-16

T10/97-202R0   Date: 6/24/97 Author: P. McLean [SY-97-04]
Minutes of SBP-2 Working Group - 6/97

T10/97-203R0   Date: 6/24/97 Author: G. Penokie [SY-97-04]
Warning/PFA ASC Reporting Selection

T10/97-204R0   Date: 7/3/97 Author: Ted Lappin [SY-97-04]
Response to Letter Ballot Comments on SSC

T10/97-205R0   Date: 7/3/97 Author: J. Lohmeyer [SY-97-04]

Comments on 97-198r0 Status/Message Simplification

T10/97-206R0   Date: 7/9/97 Author: A. Wilson [SY-97-04]
Performance Estimates for LFP

T10/97-207R0   Date: 7/14/97 Author: B. Gintz [SY-97-04]
Ultra 3 Amplitude & Skew Budgets - 25 Meter Point To Point

T10/97-208R0   Date: 7/14/97 Author: V. Bastiani [SY-97-04]
Proposal On 80 Mega Transfers

T10/97-209R0   Date: 7/14/97 Author: Weber/Lohmeyer [SY-97-04]
Minutes of Fast-xx Study Group and SPI-2 Working Group

T10/97-210R0   Date: 7/14/97 Author: Weber/Lohmeyer [SY-97-04]
Minutes of SCSI Working Group - 7/97

T10/97-211R0   Date: 7/14/97 Author: L. Lamers [SY-97-04]
Minutes of SCSI Protocol Study Group - 7/97

T10/97-212R0   Date: 7/14/97 Author: Weber/Lohmeyer [SY-97-04]
Minutes of T10 Plenary Meeting #22 - 7/97

T10/97-213R0   Date: 7/14/97 Author: Roers/Daggett [SY-97-04]
Attenuation of SCSI Cables at Extended Frequencies

T10/97-214R0   Date: 7/14/97 Author: Wally Bridegwater [SY-97-04]
Bias and Minimum Drive

T10/97-215R0   Date: 7/15/97 Author: B. Ham [SY-97-04]
Proposal for Glitch Filtering in SPI-2

T10/97-216R0   Date: 7/15/97 Author: Ham/Gus [SY-97-04]
Latching and Counting Proposal

T10/97-217R0   Date: 7/16/97 Author: R. DeKoning [SY-97-04]
Storage Management Profille Presentation

T10/97-218R0   Date: 7/16/97 Author: R. Snively [SY-97-04]
Review of Persistent Reservation

T10/97-219R0   Date: 7/17/97 Author: E. Oetting [SY-97-04]
LUN Discovery

T10/97-220R0   Date: 7/16/97 Author: E. Oetting [SY-97-04]
Minutes of SSC/SMC Working Group - 7/97

T10/97-221R0   Date: 7/17/97 Author: R. Reisch [SY-97-04]
Minutes of MMC Working Group - 7/97

T10/97-222R2   Date: 7/17/97 Author: E. Oetting [SY-97-04]
SMC Devices with no storage elements

T10/97-223R0   Date: 7/17/97 Author: B. Ham [SY-97-04]
Motion to change bus_set_delay in SPI-2

T10/97-224R0   Date: 7/17/97 Author: Robert Palasek [SY-97-04]
Invoice on SPI-2 Figures

T10/97-225R0   Date: 7/18/97 Author: G. Milligan [SY-97-04]
Proposal fro CA/ACA