To: Membership of X3T9.2

From: Lawrence J. Lamers, Secretary X3T9.2
      John B. Lohmeyer, Chair X3T9.2

Subject: Minutes of X3T9.2 Plenary Meeting #107
         Tarrytown, New York -- September 16-17, 1993

Agenda

1. Opening Remarks
2. Approval of Agenda
3. Attendance and Membership
   3.1 Roll Call of Members in Jeopardy
4. Approval of Minutes - July Meeting Bedford, NH (93-125r0)
5. Document Distribution
6. Call for Patents
7. Review of Old Action Items
8. Subgroup and/or Project Status Reports
   8.1 Project Status Summary [Lohmeyer]
   8.2 SCSI-2 Status [Lamers]
   8.3 SCSI Common Access Method (CAM) [Dallas]
   8.4 AT Attachment Status (ATA) [Finch]
   8.5 ATA Extensions [Finch]
   8.6 SCSI-3 Architecture Model (SAM) Status [Monia]
   8.7 SCSI-3 Parallel Interface (SPI) Status [Lamers]
   8.8 SCSI-3 Interlocked Protocol (SIP) Status [Lamers]
   8.9 SCSI-3 Generic Packetized Protocol (GPP) Status [Stephens]
   8.10 SCSI-3 Serial Bus Protocol (SBP) Status [Marazas]
   8.11 SCSI-3 Fiber Channel Protocol (FCP) Status [Snively]
   8.12 SCSI-3 Primary Commands (SPC) Status [Weber]
   8.13 SCSI-3 Block Commands (SBC) [Mellinger]
   8.14 SCSI-3 Stream Commands (SSC) [Stephens]
   8.15 SCSI-3 Graphics Commands (SGC) [Stephens]
   8.16 SCSI-3 Medium Changer Commands (SMC) [Stephens]
   8.17 Directly-Addressable Device Interface (DADI) []
   8.18 SCSI Common Access Method -2 (CAM-2) (93-082) [Dallas]
   8.19 RAID Study Group (93-120, 129, 141) [Penokie]
9. Old Business
   9.1 SCSI Configuration AutoMatically (93-109r4) [Gardner]
   9.2 Queuing Model Review (92-141) [Penokie]
Minutes of X3T9.2 Plenary Meeting #107 in Tarrytown, NY

9.4 Revised unitized connector (93-112r1)

10. New Business
10.1 Project Proposal for SCSI-3 Controller Commands (SCC) (93-130) [Hagerman]
10.2 SCSI-2 Requests for clarification (93-115, 93-118) [Liu, Lappin]
10.3 Review of new documents
10.4 Acceptance of Working Drafts
10.5 Forwarding Working Drafts

11. Review of Action Items
12. Meeting Schedule
   12.1 Authorization of Working Group Meetings
13. Liaison Reports
   13.1 ISO [Milligan]
   13.2 X3T9.7 (SSA) Liaison Report [Scheible]
   13.3 Fibre Channel [Allan]
   13.4 Small Form Factor Industry Group [Allan]
   13.5 IEEE P1394 [Marazas]
   13.6 IT8 [Lohmeyer]
   13.7 IEEE P1285 Status [Pak]
   13.8 PCMCIA Report
   13.9 AIIM C21 [Podio]

14. Adjournment

Results of Meeting

1. Opening Remarks

John Lohmeyer, the Chair, called the meeting to order at 1:00 p.m., Thursday September 16, 1993. He thanked Bob Dugan and Bryan Cook of IBM for arranging and hosting the meeting. The Chair extended a special welcome to Kate McMillan and Lynn Barra of the X3 Secretariat who were able to attend the first part of the meeting.

John said that the X3 Secretariat prefers receiving membership changes on the "X3 Subgroup Membership Forms" which were available on the document table. He said that people should use the X3 forms to insure the X3 Secretariat has the latest membership information. The forms should be mailed to the X3 Secretariat with a copy to John Lohmeyer.

As is customary, the people attending introduced themselves. A copy of the attendance list was circulated for attendance and corrections. Copies of the draft agenda and the recent document register were made available to those attending. Information on X3T9.2 and Mailing Subscription Forms were made available.

John spoke about the pending reorganization of X3T9 and its task groups. Del Shoemaker is planning to retire in January, 1994. It is expected that task group X3T9.2 will become X3T10. The transition is being worked on to be as smooth as possible, specifically transition of voting rights and fees.

2. Approval of Agenda

The draft agenda was approved with the following additions:

   9.4 Revised unitized connector (93-112)
3. Attendance and Membership

The membership requirements were reviewed. X3 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 X3T9.2. The individual may vote at the second plenary meeting. Working group meetings do not count toward attendance requirements.

Organizations must also pay the X3 Service Fee and the International Participation fees to maintain membership. These fees total $600 per year.

Since the last meeting, Unitrode joined the committee bringing the membership up to 58 organizations. With the termination of three organizations (see 3.1), the X3T9.2 voting membership is now at 55 organizations. Enclosure (1) is the list of the people present at the meeting and enclosure (2) is the current X3T9.2 membership list.

3.1 Roll Call of Members in Jeopardy

The Chair said he had sent jeopardy letters to 20 people from 7 organizations for lack of meeting attendance (see 93-048r2). The letters said that their organizations had failed to attend two of the last three plenary meetings and that their membership would be terminated unless they attended this meeting. The letters also informed these people of the committee’s ability to retain their membership under special circumstances in spite of their failure to attend. The organizations in jeopardy were: 3M Company, Central Data, Furukawa Electric America, Future Domain, JAE, National Semiconductor, and UNISYS.

Representatives were present from all organizations in jeopardy except: Central Data, Furukawa Electric America, and JAE. The representatives from these organizations were changed to observer status.

4. Approval of Minutes - July Meeting Bedford, NH (93-125r0)

The minutes were approved as written.

5. Document Distribution

John Lohmeyer said that the committee mailing had been sent to CBEMA the week of August 9, 1993 and it was distributed promptly. Members who have any problems with their mailing subscription should deal directly with Katrina Gray at (202) 626-5741.

Larry Lamers requested that all documents for the next mailing must be sent so as to be received by noon on Wednesday, September 29, 1993. Documents received after this date 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 X3T9.2 meets its CBEMA document archiving requirements by including CBEMA on the mailing list, documents included in the mailing must be suitable for microfilming. This means that high-quality, single-sided originals with adequate margins and proper identification must be submitted. Document X3T9.2/92-84 R1 contains the list of requirements for submissions.

As usual, minutes are also available on the SCSI BBS (719-574-0424) and will be distributed to the SCSI Reflector E-mail list. To be added to the SCSI Reflector, send an electronic message to: scsiadm@WichitaKS.NCR.COM.
The current document register is enclosure (3).

6. Call for Patents

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


7. Review of Old Action Items

1) Jerry Marazas will distribute information regarding IEEE commenting and balloting procedures on the SCSI Reflector. **Carry over.**
2) John Lohmeyer will send a letter to the X3 Secretariat on approval of expenditures for editing. **Complete.**
3) Larry Lamers will prepare ISO SCSI-2 and send it to the X3T9 IR. **Complete.**
4) Gary Stephens will draft a technical information bulletin on reporting tape partitions. **Carry over.**
5) Larry Lamers will post the P1285 Liaison report to the SCSI reflector. **Complete.**
6) John Lohmeyer will request X3T9 to substitute SPI revision 12b for SPI revision 12a. **Complete.**

8. Subgroup and/or Project Status Reports

8.1 Project Status Summary [Lohmeyer]

John Lohmeyer presented the current X3T9.2 project status summary.

8.2 SCSI-2 Status [Lamers]

Larry Lamers reported that rev 10L had been sent to the X3 Secretariat for the X3 letter ballot. This revision contains several editorial changes including the correct abbreviation of microseconds. During the ISO edit after public review microseconds was incorrectly abbreviated ‘ms’.


Dan Davies had noted in a message on the SCSI BBS that the terms ‘kilobyte’ and ‘megabyte’ in 10.3.3.2, Medium partition page, were not specifically defined. He was concerned that some people might use 1024 and 1048576 instead of 1000 and 1000000. The working group had recommended that 1000 and 1000000 are the correct definitions. Gary Stephens volunteered to include this clarification in the TIB he is already drafting for this mode page.

8.3 SCSI Common Access Method (CAM) [Dallas]

It is expected that a draft of the revised document will be available by year end. The last remaining issue, target mode operation, is nearing convergence.
8.4 AT Attachment Status (ATA) [Finch]

ATA is at public review; the public review closes November 16, 1993.

8.5 ATA Extensions [Finch]

A draft of the ATA extensions was provided at the working group meeting. A revision 1 of the document will be in the mailing. It is expected that revision 2 will incorporate several structural changes. Next meeting is scheduled for Wednesday, September 29, 1993.

8.6 SCSI-3 Architecture Model (SAM) Status [Monia]

Charles Monia reported. An editors meeting was held on Sunday afternoon. There is a consensus on SAM from the protocol editors. The next revision of SAM will incorporate the service layer interface. A presentation on documenting the queuing model was given at the working group.

8.7 SCSI-3 Parallel Interface (SPI) Status [Lamers]

X3T9 voted to forward SPI Rev 12b to X3 for first public review by a vote of 18-1-0-6. The one "no" vote was from Gene Milligan who had submitted a written ballot. Gene’s ballot stated that he was opposed to forwarding any revision of SPI "which does not include revisions to accommodate the revisions approved by X3T9.2 at their last meeting."

There were sufficient "yes" votes to send SPI on to OMC for the compliance review.

Chair’s note: The SPI first public review is October 29, 1993 to February 25, 1994.

8.8 SCSI-3 Interlocked Protocol (SIP) Status [Lamers]

Larry Lamers and Charles Monia have been working on getting SIP up to date.

8.9 SCSI-3 Generic Packetized Protocol (GPP) Status [Stephens]

A review of GPP was conducted within the last week. A revision 7 with SAM services will be in next mailing.

8.10 SCSI-3 Serial Bus Protocol (SBP) Status [Marazas]

A tutorial on SBP was held on Tuesday afternoon. Revision 14 incorporated the SAM services and improved the document to a point where it is recommended for acceptance as the working draft.

Jerry Marazas has spoken with Steve Diamond on the voting procedure for P1394. Membership in IEEE is not required to part of the balloting body. However, each individual need to contact IEEE and request participation in the balloting. Comments may be submitted by any person, however those submitted by non-members of IEEE will not have official responses.
8.11 SCSI-3 Fiber Channel Protocol (FCP) Status [Snively]

Bob Snively reported that a tutorial on FCP was held Tuesday evening. Several editorial changes resulted from those discussions. Work is being done to incorporate the SAM service interface. The removal of the link feature, and COPY command was considered. Bob stated he has conceded on link and will incorporate it in the next revision.

Wednesday evening, the FCA group reviewed the FCSI profile documents on Fibre Channel SCSI for workstation applications. The profiles are intended to foster interoperability among Fibre Channel devices.

Concerns had been expressed about features that were excluded in profile. Particularly some people present had objected to deeming an otherwise compliant implementation as non-compliant simply because it implemented a "prohibited" feature. The justification for this position was that companies buying to the profile did not want to pay for the banned feature or risk interoperability issues from a more complex implementation.

8.12 SCSI-3 Primary Commands (SPC) Status [Weber]

Ralph Weber reported that the revised COPY command proposal has been submitted to the working group which produced a minor change related to ACA handling.

Very little progress has been made on the SPC document due to the Editor’s other commitments. A proposal to revise the SCSI-2 rev 10K definition of COPY has been prepared based on the several discussions of mapping SCSI-3 device identifiers and LUNs into the COPY command parameter data. The proposal is document 93-145. That document has been revised based on comments raised at the September Working Group and will be presented to the plenary group.

8.13 SCSI-3 Block Commands (SBC) [Mellinger]

John Lohmeyer noted that Dennis Mellinger is unable to continue as editor on SBC. He asked for volunteers to perform this valuable and prestigious service.

8.14 SCSI-3 Stream Commands (SSC) [Stephens]

Gary reported that a first cut of the SCSI-3 Stream Commands will be available at the next meeting.

8.15 SCSI-3 Graphics Commands (SGC) [Stephens]

Gary reported that a first cut of the SCSI-3 Graphics Commands will be available at the next meeting.

8.16 SCSI-3 Medium Changer Commands (SMC) [Stephens]

Gary reported that a first cut of the SCSI-3 Medium Changer Commands was in the last mailing.

8.17 Directly-Addressable Device Interface (DADI) []

No report.
8.18 **SCSI Common Access Method -2 (CAM-2) (93-082) [Dallas]**

Action on CAM-2 has been delayed to focus on getting CAM-1 finished.

8.19 **RAID Study Group (93-120, 129, 141) [Penokie]**

George Penokie reported. See X3T9.2/93-120, 129, 141 for details. The RAID model (93-003) is at revision 7. Progress is being made.

9. **Old Business**

9.1 **SCSI Configuration AutoMatically (93-109r4) [Gardner]**

Ed Gardner reported that revision 4 was discussed at the working group resulting in several editorial changes. One significant change was the reassertion of SEL at the end of the protocol to delineate the SCAM 'phase'. This allows a bus tester to more easily distinguish SCAM protocol from the STATUS phase. The type code was expanded to two bytes and now contains the default/preferred ID. This master dominance type code was similarly expanded to two bytes. The action/ID codes were expanded to two quintets to make all codes the same length. A 'Locate off' code was also defined.

Bill Galloway proposed adding a bit to the second type byte to indicate that the default/preferred ID is valid.

Jeff Stai moved and Ed Gardner seconded that SCAM revision 4 as amended be accepted by X3T9.2 and that the chair be authorized to submit a public review comment on behalf of X3T9.2 recommending that SCAM be incorporated in SPI as a normative annex.

The motion carried 26:3. Skip Jones stated his no vote was because the document does not appear to be stable and motions shouldn't be taken for the expediency of a trade show.

9.2 **Queuing Model Review (92-141) [Penokie]**

George Penokie moved Jeff Williams seconded that 92-141 revision 7 as amended plus a "wrapper" be incorporated in SAM as an informative annex.

The wrapper, to be written by the SAM Editor, is to explain the relationship of the annex to the body of the document.

There was considerable discussion over the benefits and risks of including the queuing model document. The proponents wanted to make sure the subtleties of the queuing model are not lost in the translation to SAM terminology. Those opposed argued against documenting the same information twice.

The motion carried 16 in favor and 12 opposed.

In April '93, X3T9.2 voted to recommend that simultaneous withdrawal of X3.80-1988 and adoption of ISO 9315:1989 as an ANSI standard. X3T9 accepted this recommendation and voted to make the same recommendation to X3. The public review period begins October 15, 1993 and closes February 13, 1994.

9.4 Revised unitized connector (93-112r1)

The 93-112r1 document went further than some people wanted to go in "blessing" the latest SFF unitized connector. Jim McGrath objected that 93-112r1 included some details that had not been fully discussed in SFF. No one wanted a repeat of the 92-139r1 problem where the document contained errors and was inconsistent with the SFF document. Opinions included:

a) X3T9.2 should not document any aspect of the unitized connector and should merely reference the SFF document
b) X3T9.2 should only document the pin numbers and signal names
c) X3T9.2 should fully document the unitized connector.

The topic was remanded to the working group.

10. New Business

10.1 Project Proposal for SCSI-3 Controller Commands (SCC) (93-130) [Hagerman]

Doug Hagerman presented a project proposal for a new device type (RAIDs) that will contain a command set for these devices. The RAID working group is drafting a document as a proposal for this project should it get approved.

Doug Hagerman moved and George Penokie seconded that the project proposal (X3T9.2/93-130) be forwarded to X3T9 for further processing.

It was suggested that the word controller be changed to compound. The intended application is for complex subsystems including tape and optical devices. It was agreed to leave the name in the project proposal alone. The document’s name does not have to match the project proposal.

The motion barely passed unanimously 28:0:0:27.

10.2 SCSI-2 Requests for clarification (93-115, 93-118) [Liu, Lappin]

Robert Liu had noticed that the SCSI-2 Rev 10k document contains an obvious error in table 161. The values for Open and Head Load are both P 0 0 0. He requested a clarification in document 93-115.

John Lohmeyer researched the issue and determined that the error in the table occurred in the Rev 10d document. Previously, the value for Head Load was P 0 1 1. This was most likely a typo during the conversion of the document from WordStar (tm) to Word Perfect (tm).

Edward Lappin noticed that units for the various disconnect/reconnect times in SCSI-2 were changed from "microseconds" in Rev 10g and 10h to "ms" in Rev 10k. This is an error introduced during the ISO editing.
10.3 Review of new documents

X3T9.2/93-144 Multi-media commands [Lamers]

Larry Lamers presented command structures for 16-byte CDBs that are applicable to multi-media devices. The intent of the presentation is to justify the location of the control byte.

Larry Lamers moved and Bob Snively seconded that the control field be moved to a location in byte 1 for 16-byte CDBs instead of the last byte of the CDB. The motion failed 1:18.

X3T9.2/93-145r1 COPY command definition for SCSI-3 [Weber]

Ralph presented the latest version of the COPY command. The consensus was that this be incorporated into SPC.

10.4 Acceptance of Working Drafts

Larry Lamers moved and Eric Oetting seconded that SBP revision 14 be accepted as the current committee working draft for project 992D. The motion passed 28:0.

Charles Monia moved and Larry Lamers seconded that SAM revision 11 as modified by today’s motion be accepted as the current committee working draft for project 994D. The motion passed 28:0.

10.5 Forwarding Working Drafts

John Lohmeyer said that he had been approached to issue letter ballots on forwarding several of the protocol documents and SAM. Several folks spoke in support of conducting a letter ballot for the documents. It appears that SAM, SBP, FCP, and GPP could all be ready by the mailing deadline. SIP is close and may also be ready.

Since the documents will all be in the next mailing, the plan is to just mail the ballots to the Principal members referencing the mailing for the documents. Larry agreed to mail the documents directly to any Principal member who does not subscribe to the mailings. Copies of the letter ballots will also be included in the mailing.

11. Review of Action Items

1) Jerry Marazas will distribute information regarding IEEE commenting and balloting procedures on the SCSI Reflector. Completed the week following the meeting.
2) Gary Stephens will draft a Technical Information Bulletin on reporting tape partitions. Completed the week following the meeting.
3) John Lohmeyer will take the project proposal for the SCSI-3 Controller Commands to X3T9.

12. Meeting Schedule

The next plenary meeting of X3T9.2 will be November 11-12, 1993 at the Red Lion Hotel (Tel: 719-576-8900 Fax: 719-576-4450) in Colorado Springs, Colorado, hosted by NCR Corporation. The room rates are $74.00, plus tax. The reservation deadline for these rates is October 8, 1993. The X3T9.2 plenary meeting will begin at 1:00 pm on Thursday and at 8:30 am on Friday.

The meeting schedule for the week of November 9-13 in Colorado Springs is:
Minutes of X3T9.2 Plenary Meeting #107 in Tarrytown, NY

Day & Date | Meeting | Times
--- | --- | ---
Sunday 11/7 | General Editing Session | 1:30p - 5:00p (*)
Monday 11/8 | Small Form Factor Committee | 9:00a - 1:00p
 | ATA Working Group | 2:00p - 8:00p (*)
 | CAM Working Group | 9:00a - 5:00p (*)
 | FC-Arbitrated Loop | 5:00p - 8:00p
 | P1394 Connector | 1:00p - 6:00p
Tuesday 11/9 | SSA UIG | 9:00a - 1:00p
 | X3T9.7 (SSA) | 2:00p - 5:00p
 | SAM/SBP/FCP/SIP/GPP ballot review | 9:00p - 8:00p (*)
 | Fibre Channel Working Group | 9:00a - 5:00p
 | FC-0 Working Group | 9:00p - 5:00p
Wednesday 11/10 | Fibre Channel Working Group | 9:00a - 5:00p
 | IEEE P1285 | 5:00p - 8:00p
 | Fibre Channel Working Group | 9:00p - 5:00p
 | FC-LE Edit | 5:00p - 8:00p
Thursday 11/11 | RAID Study Group | 9:00p - 12:00p (*)
 | X3T9.2 Plenary Meeting | 1:00p - 8:00p (*)
 | Fibre Channel WG (Fabric) | 9:00a - 5:00p
 | IPI-3 | 9:00a - 8:00p
Friday 11/12 | X3T9.2 Plenary Meeting | 8:30a - 2:00p (*)
 | IPI-3 | 8:00a - 2:00p

(*) - Indicates an X3T9.2-related meeting. All others are shown for reference only and may be changed by other groups without notice.

Several other X3T9.2 events are also planned:

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<tr>
<th>Event</th>
<th>Day/Date</th>
<th>Time</th>
<th>Location/contact</th>
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<tbody>
<tr>
<td>ATA Working Group</td>
<td>9/29/93</td>
<td>9:00a</td>
<td>Milpitas, CA</td>
</tr>
<tr>
<td>ATA Working Group</td>
<td>10/27/93</td>
<td>9:00a</td>
<td>Milpitas, CA</td>
</tr>
<tr>
<td>RAID Study Group</td>
<td>10/13/93</td>
<td>8:00a</td>
<td>West Palm Beach, FL</td>
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For more information about X3T9.2 activities, please contact the following people:

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<thead>
<tr>
<th>Activity</th>
<th>Contact</th>
<th>Telephone/Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAM Working Group</td>
<td>Bill Dallas</td>
<td>(603) 881-2508 <a href="mailto:dallas@wasted.enet.dec.com">dallas@wasted.enet.dec.com</a></td>
</tr>
<tr>
<td>ATA Working Group</td>
<td>Steve Finch</td>
<td>(714) 573-6808 <a href="mailto:5723283@mcimail.com">5723283@mcimail.com</a></td>
</tr>
<tr>
<td>GPP Working Group</td>
<td>Gary Stephens</td>
<td>(602) 799-2246 <a href="mailto:gstephen@tucvm2.vnet.ibm.com">gstephen@tucvm2.vnet.ibm.com</a></td>
</tr>
<tr>
<td>RAID Study Group</td>
<td>George Penokie</td>
<td>(507) 253-5208 <a href="mailto:gop@rchvmp3.vnet.ibm.com">gop@rchvmp3.vnet.ibm.com</a></td>
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<tr>
<td>SAM Working Group</td>
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<tr>
<td>SBP Working Group</td>
<td>Jerry Marazas</td>
<td>(407) 982-4423 <a href="mailto:marazas@bcrvmpc2.vnet.ibm.com">marazas@bcrvmpc2.vnet.ibm.com</a></td>
</tr>
<tr>
<td>SPI Contact</td>
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<td>SCAM Contact</td>
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<td>(719) 528-2247 <a href="mailto:gardner@ssag.enet.dec.com">gardner@ssag.enet.dec.com</a></td>
</tr>
<tr>
<td>Other Activities</td>
<td>John Lohmeyer</td>
<td>(719) 573-3362 <a href="mailto:john.lohmeyer@ftcollinsco.ncr.com">john.lohmeyer@ftcollinsco.ncr.com</a></td>
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The long-term X3T9.2 meeting week schedule is:
12.1 Authorization of Working Group Meetings

John noted that the working group meetings are required to operate under the same voting procedures as does X3T9.2 (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 is automatically deferred to the plenary group.

Steve Finch moved and Skip Jones seconded that X3T9.2 authorize the X3T9.2-related meetings and events in the list under agenda item 12. The motion passed unanimously.

13. Liaison Reports

13.1 ISO [Milligan]

Gene Milligan, the X3T9 International Representative, was not able to attend, but he provided the following electronic report:

ISO Report
September 1993

The unconfirmed minutes of the Working Group 4 Den Haag meeting were submitted to the secretariat. They have now been distributed on a default ballot.

SCSI-2 9316-1 Revision 10K and errata pages covering the micro second abbreviation have been submitted for DIS letter ballot.

A plethora of New Work Items are being balloted by JTC 1. The current round of ballots is addressing various FDDI Conformance and FDDI-II projects.

13.2 X3T9.7 (SSA) Liaison Report [Scheible]

The Serial Storage Protocol (SSP) project proposal has been forwarded to X3T9 for consideration at their October meeting. For information regarding the SSA project, see the X3T9.7 minutes (which were distributed to the SCSI Reflector).

13.3 Fibre Channel [Allan]

Rev 4.1 was forwarded by X3T9.3 at the August plenary, and is presently at X3T9 letter ballot.

At the August WG a tutorial was presented on the Name Server by Beth Vanderbeck and Steve Wilson.

At the September WG, tutorials were presented on FC-SB (Block Multiplexer/ESCON channels) by Rich Taborek and on FC-XS by Kumar Malavalli. Kurt Chan presented several comments on Rev 4.1 which
caused a great deal of discussion. One item may require a technical addition to 4.1, viz adding a VU capability of defining versions (a la SCSI). An icon for Fibre Channel bulkhead and cable identification was suggested by Bob Snively.

13.4 Small Form Factor Industry Group [Allan]

The implementation of a fax back capability has been tested by various members and will be announced by press releases in the coming weeks. It is hoped to be a co-ordinated release between several vendors.

The new voting alternative of F(orward) caused confusion. The only options on submitted proposals are F, Y and N whereas on projects, members can vote two actions at once e.g. Yes to Publish and F to Forward.

Bill Ham introduced the wiring requirements from 50-conductor SCSI cables to 68-pin connectors. SFF SCSI (with power) to a cable will also be investigated.

David White presented an alternative figure for 2 1/2" form factor dimensions which used one side of the drive as the datum. Questions were raised on whether warpage had been allowed for in the dimensions. Larry Lamers presented a list of concerns that the dimensions proposed were too tight for volume production.

An error was reported by Larry Lamers in the dimensions of the 1.8" form factor figure, apparently caused by misinterpretation of a PCMCIA figure.

John Scheible presented the initial thoughts on a unitized connector for SSA, and Bill Ham described the decisions made by P1394. Jim McGrath expressed concern about the height of the connectors and that neither group had used the same relative position for power and features. A SSWG has been scheduled for Sept 28 to address connector locations on all serial interfaces.

13.5 IEEE P1394 [Marazas]

Jerry Marazas reported 6.3 is the current version. 6.4 is in preparation. December is the target to complete the technical work, with expectation that the document will be sent to its sponsor organization in January ’94. The November meetings have been canceled due to Comdex the following week. A meeting is planned for December during the X3T9 meeting week. The device connector issue continues to be worked on.

13.6 IT8 [Lohmeyer]

No report.

13.7 IEEE P1285 Status [Pak]

John Lohmeyer stated that Martin Freeman has planned a co-located meeting with the November X3T9.2 meetings for Wednesday evening. A draft document will be available.
13.8  **PCMCIA Report**

No report.

13.9  **AIIM C21 [Podio]**

AIIM C21 is working on a testing command set. John Lohmeyer requested that interested parties review the document that was distributed in the mailing.

14.  **Adjournment**

The meeting was adjourned at 6:15 p.m. on Thursday September 16, 1993.
### Meeting Attenders — Enclosure (1)

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### Meeting Attendees -- Enclosure (1)

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</tbody>
</table>

56 People Present

Status Key:  
- P - Principal  
- A - Alternate  
- O - Observer  
- L - Liaison  
- S,V - Visitor
<table>
<thead>
<tr>
<th>Name</th>
<th>Company</th>
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</tbody>
</table>

This list includes the names and contact information of participants in the X3T9.2 Plenary Meeting #107 held in Tarrytown, NY.
Minutes of X3T9.2 Plenary Meeting #107 in Tarrytown, NY

X3T9.2/93-143r0

Sep 22, 1993 - X3T9.2 Document Register - Enclosure (3)

X3T9.2/93-001R0 Date: 3/12/93 Author: J. Lohmeyer [3/15/93]
Desc: X3T9.2 Annual Report
Res:

X3T9.2/93-002R0 Date: 1/6/93 Author: G. Penokie [3/15/93]
Desc: Summary of SCSI Disk Array Items submitted to the RAID Study Group
Res:

X3T9.2/93-003R0 Date: 2/13/93 Author: G. Penokie []
Desc: SCSI Disk Array Model
Res:

X3T9.2/93-003R1 Date: 2/13/93 Author: G. Penokie []
Desc: SCSI Disk Array Model
Res:

X3T9.2/93-003R2 Date: 3/21/93 Author: G. Penokie [3/15/93]
Desc: SCSI Disk Array Model
Res:

X3T9.2/93-003R3 Date: 4/15/93 Author: G. Penokie []
Desc: SCSI Disk Array Model
Res:

X3T9.2/93-003R4 Date: 4/15/93 Author: G. Penokie [6/15/93]
Desc: SCSI Disk Array Model
Res:

X3T9.2/93-003R5 Date: 6/13/93 Author: G. Penokie []
Desc: SCSI Disk Array Model
Res:

X3T9.2/93-003R6 Date: 7/6/93 Author: G. Penokie [8/15/93]
Desc: SCSI Disk Array Model
Res:

X3T9.2/93-003R7 Date: 8/5/93 Author: G. Penokie []
Desc: SCSI Disk Array Model
Res:

X3T9.2/93-003R8 Date: 8/28/93 Author: G. Penokie [10/15/93]
Desc: SCSI Disk Array Model
Res:

X3T9.2/93-003R9 Date: 1/11/93 Author: S. Finch [3/15/93]
Desc: Minutes of ATA Extensions Working Group - Jan '93
Res:

X3T9.2/93-004R0 Date: 1/11/93 Author: G. Penokie [3/15/93]
Desc: Minutes of RAID Study Group - Jan '93
Res:

X3T9.2/93-005R0 Date: 1/12/93 Author: J. Lohmeyer [3/15/93]
Desc: Minutes of X3T9.2 General Working Group - Jan '93
Res:

X3T9.2/93-006R0 Date: 1/11/93 Author: J. McGrath [3/15/93]
Desc: Support of Local Bus in ATA
Res:

X3T9.2/93-008R0 Date: 10/21/92 Author: D. Kummer [3/15/93]
Desc: Local Bus IDE Modes
Res:

X3T9.2/93-009R0 Date: 1/4/93 Author: S. Finch []
Desc: ATA Extensions draft document
Res:

X3T9.2/93-010R0 Date: 1/11/93 Author: R. Roberts [3/15/93]
Desc: "What does the Customer Want????" presentation
Res:

X3T9.2/93-011R0 Date: 1/4/93 Author: S. Todd [3/15/93]
Desc: Dual Array Controller issues
Res:

X3T9.2/93-012R0 Date: 1/5/93 Author: G. Houlder [3/15/93]
Desc: Clarification of TTD, CIOP
Res:

X3T9.2/93-013R0 Date: 1/4/93 Author: P. Entzel [3/15/93]
Desc: Request for two SCSI-3 (SSC) Density Codes
Res: Gary Stephens to assign codes

X3T9.2/93-014R0 Date: 1/12/93 Author: G. Marazas [3/15/93]
Desc: Serial Bus Protocol Fundamentals
Res:

X3T9.2/93-015R0 Date: 1/4/93 Author: G. Houlder [3/15/93]
Desc: Minutes of CAM-2 Study Group - Jan '93
Res:

X3T9.2/93-016R0 Date: 1/12/93 Author: R. Weber [3/15/93]
Desc: Why SCSI-3 needs ABORT (all initiator tasks)
Res:

X3T9.2/93-017R0 Date: 1/12/93 Author: J. Lohmeyer [3/15/93]
Desc: X3T9.2 Meeting Schedule
Res:

X3T9.2/93-018R0 Date: 1/25/93 Author: S. Finch [3/15/93]
Desc: ATA Extensions-Specifications of Electrical Characteristics
Res:
Minutes of X3T9.2 Plenary Meeting #107 in Tarrytown, NY

X3T9.2/93-0180  Date: 2/15/93  Author: L. Lamers  [3/15/93]
Desc: X3T9.2 Procedure on Electronic Notification
Res:

X3T9.2/93-0200  Date: 2/15/93  Author: J. Williams  [3/15/93]
Desc: New Optical Memory Density Codes
Res:

X3T9.2/93-0201  Date: 2/22/93  Author: J. Williams  [3/15/93]
Desc: New Optical Memory Density Codes
Res: Accepted for SCSI-3 in 4/93.

X3T9.2/93-0210  Date: 2/11/93  Author: R. Jesup  [3/15/93]
Desc: Response to Public Review Comment on CAM
Res:

X3T9.2/93-0220  Date: 1/28/93  Author: T. Hanan  [3/15/93]
Desc: Minutes of SFF SSWG on Local Bus ATA
Res:

X3T9.2/93-0230  Date: 2/8/93  Author: L. Barnes  [3/15/93]
Desc: Report on PCMCIA SCSI
Res:

X3T9.2/93-0240  Date: 2/8/93  Author: J. Scheible  [3/15/93]
Desc: SSA Liaison Report
Res:

X3T9.2/93-0250  Date: 2/10/93  Author: V. Novak  [3/15/93]
Desc: Status of FCP Revision 003
Res:

X3T9.2/93-0260  Date: 2/15/93  Author: D. Pak  [3/15/93]
Desc: P1285 Liaison Report
Res:

X3T9.2/93-0270  Date: 1/28/93  Author: G. Leonhardt  [3/15/93]
Desc: Explanation of No Vote on ATA
Res:

X3T9.2/93-0280  Date: 2/12/93  Author: J. Chen  [3/15/93]
Desc: Comment on ATA letter ballot
Res:

X3T9.2/93-0290  Date: 2/15/93  Author: Lamers/Penokie
Desc: Minutes of RAID Study Group - Feb '93
Res:

X3T9.2/93-0291  Date: 2/25/93  Author: Lamers/Penokie  [3/15/93]
Desc: Minutes of RAID Study Group - Feb '93
Res:

X3T9.2/93-0300  Date: 2/12/93  Author: B. Dallas  [3/15/93]
Desc: SCSI RAID Problems Presented to the Software Developer
Res:

X3T9.2/93-0310  Date: 2/16/93  Author: B. Spence  [3/15/93]
Desc: Corrections and Additions in SPI Timing
Res:

X3T9.2/93-0320  Date: 2/16/93  Author: G. Penokie
Desc: Number of Blocks Field Size Limitation
Res:

X3T9.2/93-0321  Date: 3/22/93  Author: G. Penokie  [3/15/93]
Desc: Number of Blocks Field Size Limitation
Res: Accepted for SCSI-3 in 4/93.

X3T9.2/93-0330  Date: 2/16/93  Author: Lamers/Lohmeyer  [3/15/93]
Desc: Minutes of X3T9.2 Plenary Meeting #104
Res:

X3T9.2/93-0340  Date: 2/17/93  Author: J. Lohmeyer  [3/15/93]
Desc: SDP Message Clarification
Res:

X3T9.2/93-0350  Date: 2/21/93  Author: S. Smyers  [3/15/93]
Desc: Minutes of SBP Working Group - Feb '93
Res:

X3T9.2/93-0360  Date: 2/17/93  Author: T. Motoyama  [3/15/93]
Desc: Scanner Window Descriptor Bytes Proposal
Res:

X3T9.2/93-0361  Date: 7/22/93  Author: T. Motoyama  [8/15/93]
Desc: Scanner Window Descriptor Bytes Proposal
Res:

X3T9.2/93-0370  Date: 2/27/93  Author: G. Penokie
Desc: When to issue SDTR after WDTR
Res:

X3T9.2/93-0371  Date: 3/22/93  Author: G. Penokie  [3/15/93]
Desc: When to issue SDTR after WDTR
Res:

X3T9.2/93-0372  Date: 5/5/93  Author: G. Penokie  [6/15/93]
Desc: When to issue SDTR after WDTR
Res:

X3T9.2/93-0373  Date: 6/13/93  Author: G. Penokie  [8/15/93]
Desc: When to issue SDTR after WDTR
Res:
Minutes of X3T9.2 Plenary Meeting #107 in Tarrytown, NY

X3T9.2/93-038R0 Date: 3/20/93 Author: R. Weber [3/15/93]
Desc: Third-party Commands in SCSI-3 SPC
Res:

X3T9.2/93-038R1 Date: 4/15/93 Author: R. Weber [6/15/93]
Desc: Third-party Commands in SCSI-3 SPC
Res:

X3T9.2/93-039R0 Date: 3/16/93 Author: Lamers/Lohmeyer [3/15/93]
Desc: Minutes of X3T9.2 General Working Group - Mar ’93
Res:

X3T9.2/93-039R1 Date: 3/25/93 Author: Lamers/Lohmeyer [5/15/93]
Desc: Minutes of X3T9.2 General Working Group - Mar ’93
Res:

X3T9.2/93-040R0 Date: 3/2/93 Author: E. Gardner [3/15/93]
Desc: Minutes of SBP Working Group - Mar ’93
Res:

X3T9.2/93-041R0 Date: 3/2/93 Author: G. Houlder [3/15/93]
Desc: SCSI-3 Changes for Dual Port Feature
Res:

X3T9.2/93-041R1 Date: 3/15/93 Author: G. Houlder [6/15/93]
Desc: SCSI-3 Changes for Dual Port Feature
Res:

X3T9.2/93-041R2 Date: 4/20/93 Author: G. Houlder [6/15/93]
Desc: SCSI-3 Changes for Dual Port Feature
Res: Accepted for SCSI-3 in 4/93.

X3T9.2/93-042R0 Date: 3/17/93 Author: E. Gardner []
Desc: SBP Command Block CDB Alignment
Res:

X3T9.2/93-043R0 Date: 3/17/93 Author: N. Hayes [3/15/93]
Desc: SQRL SCSI Queued Reference List
Res:

X3T9.2/93-044R0 Date: 3/18/93 Author: R. Roberts [3/15/93]
Desc: Presentation on BASE-1
Res:

X3T9.2/93-045R0 Date: 3/18/93 Author: S. Finch [3/15/93]
Desc: Minutes of the Disk Drive Working Group - Mar ’93
Res:

X3T9.2/93-046R0 Date: 2/24/93 Author: T. Hanan [3/15/93]
Desc: Minutes of SFF SSWG on Local Bus ATA
Res:

X3T9.2/93-047R0 Date: 3/19/93 Author: J. Lohmeyer [3/15/93]
Desc: Minutes of CAM Working Group - Mar ’93
Res:

X3T9.2/93-048R0 Date: 3/21/93 Author: J. Lohmeyer [3/15/93]
Desc: Jeopardy Letter for 1993
Res:

X3T9.2/93-048R1 Date: 6/17/93 Author: J. Lohmeyer [8/15/93]
Desc: Jeopardy Letter for 1993
Res:

X3T9.2/93-048R2 Date: 7/30/93 Author: J. Lohmeyer [8/15/93]
Desc: Jeopardy Letter for 1993
Res:

X3T9.2/93-049R0 Date: 3/22/93 Author: L. Lamers [3/15/93]
Desc: Minutes of the RAID Study Group - Mar ’93
Res:

X3T9.2/93-050R0 Date: 3/22/93 Author: Finch/Allan [3/15/93]
Desc: Project Proposal for ATA-2
Res:

X3T9.2/93-051R0 Date: 1/6/93 Author: I. Larsen [3/15/93]
Desc: Asynch transfer question & reply
Res:

X3T9.2/93-052R0 Date: 1/14/93 Author: K. Gingerich [3/15/93]
Desc: Suggested Changes to Fig 8 in SPI
Res:

X3T9.2/93-053R0 Date: 1/31/93 Author: J. Cohen [3/15/93]
Desc: Quotation on SCSI-2 edit
Res:

X3T9.2/93-054R0 Date: 1/31/93 Author: J. Cohen [3/15/93]
Desc: Quotation on ATA edit
Res:

X3T9.2/93-055R0 Date: 1/31/93 Author: J. Cohen [3/15/93]
Desc: Quotation on CAM edit
Res:

X3T9.2/93-056R0 Date: 3/12/93 Author: C. Mozniak [3/15/93]
Desc: Copyright for Single Connector Attachment Document
Res:
Minutes of X3T9.2 Plenary Meeting #107 in Tarrytown, NY

X3T9.2/93-057R0 Date: 11/9/92 Author: R. Snively [3/15/93]
Desc: Single Connector Attachment for Small SCSI Disk Drives
Res:

X3T9.2/93-058R0 Date: 1/28/93 Author: R. Whalen [3/15/93]
Desc: SIMport Specification
Res:

X3T9.2/93-059R0 Date: 4/21/93 Author: L. Lamers [6/15/93]
Desc: ATA Rev 4 Errata
Res:

X3T9.2/93-061R0 Date: 4/22/93 Author: R. Gardner [6/15/93]
Desc: Minutes of SBP Working Group - Apr '93
Res:

X3T9.2/93-062R0 Date: 3/29/93 Author: S. Washburn [10/15/93]
Desc: New Code for QIC 555 Tape - mini cartridge
Res:

X3T9.2/93-063R0 Date: 3/29/93 Author: R. Weber []
Desc: Disposition of COPY Function Codes in 90-048r7
Res:

X3T9.2/93-064R0 Date: 3/30/93 Author: R. Weber [6/15/93]
Desc: Disposition of ASC/ASCQ tag number in X3T9.2/92-141R5
Res:

X3T9.2/93-065R0 Date: 4/19/93 Author: J. Frazier [6/15/93]
Desc: Clearing an ACA in SIP
Res:

X3T9.2/93-066R0 Date: 4/9/93 Author: R. Weber [6/15/93]
Desc: ASC ASCQ Sense Codes for SCSI-3
Res:

X3T9.2/93-067R0 Date: 3/22/93 Author: Lynn Barra [6/15/93]
Desc: Follow-Up to X3LB 2189
Res: CM-2 LB results 21-0-1-9; 990D

X3T9.2/93-068R0 Date: 3/22/93 Author: Lynn Barra [6/15/93]
Desc: Follow-up to X3LB 2190
Res:

X3T9.2/93-069R0 Date: 3/22/93 Author: Lynn Barra [6/15/93]
Desc: Follow-up to X3LB 2191
Res:

X3T9.2/93-070R0 Date: 4/13/93 Author: G. Anjargoli [6/15/93]
Desc: Revision to Description of Partition Size in SCSI-2
Res:

X3T9.2/93-071R0 Date: 4/19/93 Author: G. Penokie []
Desc: Isochronous Queue Tags
Res:

X3T9.2/93-072R0 Date: 4/21/93 Author: Lamers/Lohmeyer [6/15/93]
Desc: Minutes of X3T9.2 Plenary Meeting #105
Res:

X3T9.2/93-073R0 Date: 7/23/93 Author: Lamers/Lohmeyer [6/15/93]
Desc: Minutes of X3T9.2 Plenary Meeting #105
Res: changed Motoyama to Satwinder Mangat

X3T9.2/93-074R0 Date: 4/19/93 Author: J. Lohmeyer [6/15/93]
Desc: Letter to PCMCIA RE Schedules
Res:

X3T9.2/93-075R0 Date: 4/19/93 Author: Penokie/Lamers [6/15/93]
Desc: Minutes of the X3T9.2 RAID Study Group - Apr '93
Res:

X3T9.2/93-076R0 Date: 5/20/93 Author: Lamers/Penokie [6/15/93]
Desc: Minutes of RAID Study Group - May '93
Res:

X3T9.2/93-077R0 Date: 4/20/93 Author: G. Milligan [6/15/93]
Desc: Conflict between CORRECT and DCR Bits
Res:
Minutes of X3T9.2 Plenary Meeting #107 in Tarrytown, NY

X3T9.2/93-078R0  Date: 4/20/93  Author: J. Lohmeyer  [6/15/93]
Desc: Letter to Authorize Edit Expenditures
Res:

X3T9.2/93-079R0  Date: 4/19/93  Author: D. Pak  [6/15/93]
Desc: P1285 Liaison Report for April 1993
Res:

X3T9.2/93-080R0  Date: 4/13/93  Author: R. Snively  [6/15/93]
Desc: SCSI-3 FCP Change Report
Res:

X3T9.2/93-081R0  Date: 4/22/93  Author: J. Stai  [6/15/93]
Desc: Comments on SPI Rev 12
Res:

X3T9.2/93-082R0  Date: 4/23/93  Author: B. Dallas  [6/15/93]
Desc: Minutes of CAM Working Group - Apr ’93
Res:

X3T9.2/93-083R0  Date: 4/26/93  Author: O. Allan  [6/15/93]
Desc: Information on Email
Res:

X3T9.2/93-085R0  Date: 4/28/93  Author: J. Lohmeyer  [6/15/93]
Desc: Letter to George Anjargoli on Tape Issues
Res:

X3T9.2/93-086R0  Date: 4/30/93  Author: L. Lamers  [6/15/93]
Desc: Minutes of ATA Working Group - Apr ’93
Res:

X3T9.2/93-087R0  Date: 5/3/93  Author: G. Watson  [6/15/93]
Desc: RAID Issues from TRIMM’s Perspective
Res:

X3T9.2/93-088R0  Date: 5/10/93  Author: E. Gardner  [6/15/93]
Desc: Dealing with SBP Target Resets
Res:

X3T9.2/93-089R0  Date: 5/14/93  Author: H. Harris  [6/15/93]
Desc: SCSI-3 Wide Bus Parity Handling Considerations
Res:

X3T9.2/93-090R0  Date: 5/17/93  Author: B. Spence  [6/15/93]
Desc: Proposal for Recouping Seemingly Lost Ground
Res:

X3T9.2/93-091R0  Date: 5/18/93  Author: D. Allan  [6/15/93]
Desc: 1994 Calendar
Res:

X3T9.2/93-092R0  Date: 5/18/93  Author: Lammers/Lohmeyer  [6/15/93]
Desc: Minutes of X3T9.2 General Working Group - May ’93
Res:

X3T9.2/93-093R0  Date: 5/4/93  Author: R. Bellino  [6/15/93]
Desc: Cable for PCMCIA-SCSI Applications
Res:

X3T9.2/93-094R0  Date: 5/12/93  Author: G. Frazier  [6/15/93]
Desc: Setup and hold timings in SPI
Res:

X3T9.2/93-095R0  Date: 5/19/93  Author: J. McGrath  [6/15/93]
Desc: Son of SPASTIC
Res:

X3T9.2/93-096R0  Date: 5/18/93  Author: M. Freeman  [6/15/93]
Desc: Liaison Report on P1285
Res:

X3T9.2/93-097R0  Date: 5/17/93  Author: R. Snively  [6/15/93]
Desc: Presentation on FCP rev 4 changes
Res:

X3T9.2/93-098R0  Date: 5/17/93  Author: S. Smyers  [6/15/93]
Desc: Minutes of SBP Working Group - May 6-7, ’93
Res:

X3T9.2/93-099R0  Date: 5/20/93  Author: S. Smyers  [6/15/93]
Desc: Minutes of SBP Working Group - May 20, ’93
Res:

X3T9.2/93-100R0  Date: 5/4/93  Author: L. Lamers  [6/15/93]
Desc: Minutes of Disk Drive Working Group - May ’93
Res:

X3T9.2/93-101R0  Date: 5/26/93  Author: J. Lohmeyer  [6/15/93]
Desc: X3T9 Letter Ballot comments on SPI
Res:

X3T9.2/93-102R0  Date: 6/6/93  Author: J. Williams  [6/15/93]
Desc: Queue Full Handling
Res:

X3T9.2/93-103R0  Date: 5/31/93  Author: G. Milligan  [6/15/93]
Desc: SCSI-3 Parallel Interface Letter Ballot Comments
Res:
Minutes of X3T9.2 Plenary Meeting #107 in Tarrytown, NY

X3T9.2/93-10480  Date: 5/24/93  Author: J. Cannon [6/15/93]
Desc: Comment on SPI letter ballot
Res:

X3T9.2/93-10580  Date: 6/8/93  Author: J. Lohmeyer [6/15/93]
Desc: Response to J. Cannon letter
Res:

X3T9.2/93-10680  Date: 6/8/93  Author: J. Lohmeyer [6/15/93]
Desc: Response to G. Milligan comments on SPI
Res:

X3T9.2/93-10780  Date: 5/27/93  Author: F. Podio [6/15/93]
Desc: Letter & draft of AIM error monitoring & reporting
Res:

X3T9.2/93-10880  Date: 7/9/93  Author: G. Penokie [8/15/93]
Desc: SCSI Disk Array Questions and Answers
Res:

X3T9.2/93-10980  Date: 6/7/93  Author: E. Gardner []
Desc: SCSI Configured Automagically (SCAM)
Res:

X3T9.2/93-10981  Date: 6/30/93  Author: E. Gardner []
Desc: SCSI Configured Automagically (SCAM)
Res:

X3T9.2/93-10982  Date: 7/20/93  Author: E. Gardner [8/15/93]
Desc: SCSI Configured Automagically (SCAM)
Res:

X3T9.2/93-10983  Date: 8/9/93  Author: E. Gardner [8/15/93]
Desc: SCSI Configured Automagically (SCAM)
Res:

X3T9.2/93-10984  Date: 9/14/93  Author: E. Gardner [10/15/93]
Desc: SCSI Configured Automagically (SCAM)
Res:

X3T9.2/93-11080  Date: 6/21/93  Author: H. Landis [8/15/93]
Desc: Comments on ATA DMA definitions
Res:

X3T9.2/93-11180  Date: 7/16/93  Author: J. Lohmeyer [8/15/93]
Desc: Letter to J. Stai
Res:

X3T9.2/93-11280  Date: 7/8/93  Author: R. Whiteman [8/15/93]
Desc: Unitized Connector 12-pin Assignment
Res:

X3T9.2/93-11281  Date: 7/28/93  Author: R. Whiteman/L. Lamers [8/15/93]
Desc: Unitized Connector 12-pin Assignment
Res:

X3T9.2/93-11380  Date: 6/9/93  Author: G. Houlder [8/15/93]
Desc: SPI rev 12 comments
Res:

X3T9.2/93-11480  Date: 6/28/93  Author: G. Houlder [8/15/93]
Desc: SPI Clarification of REQ/ACK pulse width
Res:

X3T9.2/93-11580  Date: 8/20/93  Author: R. Liu [10/15/93]
Desc: Request for Clarification re: Table 161 rev 10k
Res:

X3T9.2/93-11680  Date: 7/12/93  Author: J. McGrath [8/15/93]
Desc: ATA Power Mode Timer
Res:

X3T9.2/93-11780  Date: 8/19/93  Author: J. Lohmeyer [10/15/93]
Desc: Transmittal letter for SCSI-2
Res:

X3T9.2/93-11880  Date: 9/2/93  Author: J. Lohmeyer [10/15/93]
Desc: Request for Clarification from E. Lappin
Res:

X3T9.2/93-11980  Date: Author: Lamers/Lohmeyer [8/15/93]
Desc: Minutes of X3T9.2 Working Group - JUL ’93
Res:

X3T9.2/93-12080  Date: 6/23/93  Author: G. Penokie [8/15/93]
Desc: Minutes of RAID Study Group - JUN ’93
Res:

X3T9.2/93-12180  Date: 7/19/93  Author: R. Bellino [8/15/93]
Desc: PCMCIA Cable Family
Res:

X3T9.2/93-12280  Date: 7/15/93  Author: G. Frazier [8/15/93]
Desc: Automatic SCSI ID Acquisition
Res:

X3T9.2/93-12380  Date: 9/17/93  Author: J. Lohmeyer [10/15/93]
Desc: Letter to Jean-Paul Emard re: TC reorg
Res:

X3T9.2/93-12480  Date: 7/21/93  Author: C. Monia [8/15/93]
Desc: SAM status report
Res:
Minutes of X3T9.2 Plenary Meeting #107 in Tarrytown, NY

X3T9.2/93-148R0 Date: 9/21/93 Author: L. Lamers [10/15/93]
Desc: Minutes of the Disk Drive Working Group - Sep '93
Res:

X3T9.2/93-149R0 Date: 9/21/93 Author: Paul D. Aloisi [10/15/93]
Desc: RAID Hardware Issues
Res:

X3T9.2/93-150R0 Date: 9/22/93 Author: P. Doughtery [10/15/93]
Desc: Software Write Protect
Res: