Accredited Standards Committee*
X3, Information Technology

To: Membership of X3T10

From: Ralph Weber, Secretary X3T10
                John Lohmeyer, Chair X3T10

Subject: Minutes of X3T10 Plenary Meeting #10
                Colorado Springs, CO -- July 13, 1995

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Agenda

1. Opening Remarks

2. Approval of Agenda

3. Attendance and Membership

4. Approval of Minutes - May Meeting Harrisburg, PA (X3T10/95-211r1)

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 and X3/OMC Liaison [Lohmeyer]
    8.2 X3T10.1 Task Group Report [Hallam]
    8.3 SCSI Common Access Method (CAM) {Project 792-D} [Dallas]
    8.4 ATA Extensions (ATA-2) Status {Project 948-D} [Finch]
    8.5 SCSI-3 Parallel Interface (SPI) Status {Project 855-D} [Lamers]
    8.6 SCSI-3 Interlocked Protocol (SIP) Status {Project 856-D} [Penokie]
    8.7 SCSI Common Access Method -3 (CAM-3) Status {Project 990-D} [Dallas]
    8.8 SCSI-3 Generic Packetized Protocol (GPP) Status {Project 991-DT} [Stephens]
    8.9 SCSI-3 Serial Bus Protocol (SBP) Status {Project 992-D} [Roberts]
    8.10 SCSI-3 Fiber Channel Protocol (FCP) Status {Project 993-D} [Snively]
    8.11 SCSI-3 Architecture Model (SAM) Status {Project 994-D} [Monia]
    8.12 SCSI-3 Primary Commands (SPC) Status {Project 995-D} [Weber]
    8.13 SCSI-3 Block Commands (SBC) Status {Project 996-D} [Tewell]
    8.14 SCSI-3 Stream Commands (SSC) Status {Project 997-D} [Lappin]
    8.15 SCSI-3 Graphics Commands (SGC) Status {Project 998-D} [Tewell]
    8.16 SCSI-3 Medium Changer Commands (SMC) Status {Project 999-D} [Oetting]
    8.17 SCSI-3 Controller Commands (SCC) Status {Project 1047-D} [Penokie]
    8.18 Multimedia Command Set (MMC) Status {Project 1048-D} [Roberts]
    8.19 SCSI-3 Fast-20 Parallel Interface (Fast-20) {Project 1071-D} [Lamers]
    8.20 AT Attachment-3 Interface (ATA-3) Status {Project 2008-D} [Milligan]
    8.21 ATA Packet Interface (ATAPI) Status {Project 1120-D} [Milligan]
    8.22 Systems Issues Study Group [Penman]
    8.23 SPI-2 Study Group [Ham/Aloisi]
    8.24 High Availability Study Group [Sicola]

9. Old Business
    9.1 Clarification of international program fee [Allan]
    9.2 Addressability of TARGET RESET task management function (94-236r1) [Snively]
    9.3 Resolution of SCSI-3 SBP (0992-D) Public Review Comments
    9.4 Resolution of SCSI-3 SCC (1047-D) Public Review Comments
    9.5 Request for Blocks of Density Codes and Medium Type Codes for QIC Tape Drives (95-201) [Freeman]

10. New Business
    10.1 Forwarding of SCSI-3 FCP (0993-D) to Second Public Review
    10.2 Forwarding of SCSI-3 SAM (0994-D) to Second Public Review
    10.3 Results of Letter Ballot on recommending Formation of an ATA TC
    10.4 Results of Letter Ballots on 10 Project Proposals
    10.5 Vendor-specific mode page codes for tapes (95-221r1) [Weber]
    10.6 Power Condition mode page (95-222r1) [Weber]

11. ISO Report [Milligan]

12. Liaison Reports
    12.1 X3T11 Liaison Report [Cummings]
    12.2 SFF Industry Group [Allan]
    12.3 IEEE P1394 [Marazas]
    12.4 IEEE P1285 Status [Pak]
    12.5 PCMCIA Report [McLean]

13. Review of Action Items

14. Meeting Schedule
    14.1 Authorization of Working Group Meetings

15. Adjournment

Results of Meeting

1.   Opening Remarks

John Lohmeyer, the X3T10 Chair, called the meeting to order at 1:00 p.m., Thursday July 13, 1995. He thanked Symbios Logic for hosting the meeting and saving him a trip.

John said that X3 Subgroup Membership forms and the X3T10 Mailing Subscription form 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. These forms should be mailed directly to the X3 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 X3T10 were made available to those attending.

2.   Approval of Agenda

The draft agenda was approved as written.

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 X3T10. 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 ($300) to maintain membership. The International Program Fee ($300) is billed separately directly from ANSI.

The Chair said he had sent letters to 14 people from 8 organizations informing them that their membership was in jeopardy due to non-attendance (see 95-028r0) and that their membership would be terminated if they did not attend this meeting. All organizations were represented at this meeting except:

AT&T
Interphase
Maxoptix

These organizations were 'terminated' (that is, the principals were changed to observers, first alternates, if any, were dropped, and any additional alternates were changed to observers). No organizations joined X3T10 at the meeting.

There was some confusion about whether Francesco Liburdi of Wearnsi Hollingsworth was eligible to vote during a later roll call vote. The chair ruled no at the time since there was no record of prior attendance from any organization starting with 'Wea'. However, when processing attendance data later, the chair found that Frank Liburdi of Hollingsworth had attended the March '95 meeting. The mis-match in organization names was the cause of the ruling. Mr. Liburdi is eligible to join X3T10 as a voting member upon supplying a letter requesting membership to the chair.

The X3T10 membership is now at 56 organizations down from 59 organizations last time. Enclosure (1) is the list of the people present at the meeting and enclosure (2) is the current X3T10 membership list.

4.   Approval of Minutes - May Meeting Harrisburg, PA (X3T10/95-211r1)

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) or Dan Arnold (darnold@itic.nw.dc.us) at (202) 626-5741.

Larry Lamers requested that all documents for the next mailing be in his hands by noon on Thursday July 27, 1995. 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 X3T10 meets its document archiving requirements by including the X3 Secretariat on the mailing list, documents included in the mailing must be suitable for archiving. This means that high-quality, single-sided originals with adequate margins and proper identification must be submitted. Document X3T10/95-147 contains the list of requirements for submissions.

In keeping with the X3T10 committee's new efforts for electronic document filing and distribution, Larry requested that electronic copies of all documents be made available to him. The electronic copies can be sent directly to Larry. Or, the electronic document can be placed on the SCSI BBS.

As usual, minutes are also available on the SCSI BBS (719-574-0424) and will be distributed to the ATA and SCSI Reflectors. To be added to the ATA Reflector, send an email to majordomo@dt.wdc.com with the line 'subscribe ata' in the message body. To subscribe to the SCSI Reflector, send an electronic message to: scsi-request@symbios.com and include your mailing address in the message body. The X3 Secretariat maintains a World Wide Web page at http://www.x3.org.

The current document register is enclosure (3).

John noted that the Global Engineering project to distribute committee draft standards documents on CD-ROM is scheduled to have the first version available in August 1995.

6.   Call for Patents

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

John reported that Micropolis and Compaq have not responded to the letters he sent following the March and May meetings, respectively.

A document is available from ANSI, "Procedures for the Development and Coordination of American National Standards", at no charge. Annex I contains the ANSI patent policy.

Gene Milligan reported that the Seagate patent policy is substantially the same as the IBM patent policy, a copy of which he displayed. Gene described the differences as being that Seagate restricts its statement to those patents related to standards where Seagate participates in development of the standard.

At Gene's prodding, John Lohmeyer requested that Gene Milligan provide a letter describing the Seagate patent policy. Gene Milligan took an action item to provide the letter (and completed the action item later in the meeting).

7.   Review of Old Action Items

82)   Larry Lamers will include the X3T11 change control procedure in the next X3T10 mailing. *Complete.*
84)   George Penokie will prepare a document (probably a technical report) describing the SPI fairness
          algorithm. *Carry over.*
86)   John Lohmeyer will write a letter to Compaq Computer Corporation regarding patent 5,375,243, "Hard
          Disk Password Security System" and issues with a similar scheme in ATA. *Complete.*
87)   Bill Dallas will prepare CAM revision 12b. *Complete.*
88)   John will forward CAM 12b to X3 for final processing. *Complete.*
89)   John will determine which persons lodging comments must be notified of the comments resolution. *All
          must be notified. Complete.*
90)   John will notify those who commented on FCP (as per the results of the previous action item) of
          the comments resolution and their obligation appeal the resolution within 15 days. *Complete.*
91)   John will notify those who commented on SAM of the comments resolution and their obligation appeal
          the resolution within 15 days. *Complete.*
92)   John will write a letter to QIC requesting a delay in the assignment of a block of codes to QIC.
          Complete.
93)   Larry will conduct a letter ballot vote on the question of creating a new technical committee for ATA.
          Complete.
94)   Larry will conduct a letter ballot vote to approve the ATA+PI project proposal. *Complete.*
95)   Larry will conduct letter ballots on the SPI-2, ESPC, FCP-2, SSA-S2P, SSA-S3P, SSA-TL1, SSA-TL2,
          SSA-PH1, and SSA-PH2 project proposals. *Complete.*

8.   Subgroup and/or Project Status Reports

   8.1   Project Status Summary and X3/OMC Liaison [Lohmeyer]

John said that the current X3T10 project status summary was included on the backs of the meeting agendas and will be included in the mailing as usual. John noted that the current group of project proposals will arrive too late for action at the July OMC meeting. He said that the project proposals will be processed at the September OMC meeting.

   8.2   X3T10.1 Task Group Report [Hallam]

Ken Hallam reported that X3T10.1 met on June 28, 1995. Samsung joined and Honda Connectors was dropped due to lack of attendance. X3T10.1 continues to have 23 members.

X3T10.1 reviewed PH1 Physical Draft revision 4d. Some dimensions are still needed for the external connector. Dimension changes were made for the internal connector. The committee removed the requirement for line fault detection. The document is near completion. It may be ready for a letter ballot in August.

X3T10.1 reviewed TL1 Transport Layer revision 5. There will be a rewrite of the SAT section to improve its clarity. The document is aligning terms with SCSI-3 SAM. There have been many editorial changes. A Services section has been added to comply with SAM. There still is lots of work to do. An editors' meeting is scheduled.

X3T10.1 reviewed S2P SCSI-2 Protocol revision 2. A few editorial changes were made. ACA was changed to SCA, (name change only) to avoid conflict with SAM. All devices will be required to implement SCA. The committee voted down a proposal to implement CA. The document is near completion. It may be ready for a letter ballot in August.

X3T10.1 reviewed the letter ballot comments on all 6 project proposals. Responses were generated and approved and forwarded to X3T10. Ken anticipated that X3T10 will review the responses and forward the revised project proposals to X3.

X3T10.1 reviewed a paper from Dell Computer regarding "Hot-Swap" (LRC). Ken reported that many open issues remain and a study group has been formed.

Ken Hallam moved and Larry Lamers seconded that X3T10 recommend to OMC that X3T10.1 be authorized to have a seventh meeting in 1995 to assist in realigning its meeting schedule. The motion passed 30:1:0:25.

   8.3   SCSI Common Access Method (CAM) {Project 792-D} [Dallas]

In Bill Dallas' absence, John Lohmeyer reported that CAM revision 12b was sent to X3 and is undergoing an X3 letter ballot. John guessed that the letter ballot will close in August.

   8.4   ATA Extensions (ATA-2) Status {Project 948-D} [Finch]

John reported that the first public review on ATA-2 will close August 8, 1995.

   8.5   SCSI-3 Parallel Interface (SPI) Status {Project 855-D} [Lamers]

John reported that SPI has passed the X3 approval letter ballot and has been sent to ANSI for BSR approval.

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

George provided copies of SIP revision 5 to the committee. Revision 5 incorporates a first pass at a SIP-to-SAM and a SIP-to-SPI interface. George reported that electronic versions are available on the BBS and the FTP site. George noted that substantial SIP discussion occurred at the working group meeting. He expressed the belief that much work remains to be done on SIP.

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

Ralph Weber reported for Bill Dallas, who was unable to attend these meetings. Ralph reported that Lansing Sloan chaired the CAM Working Group meeting, earlier this week. The minutes from the meeting can be found in document 95-275. Only four people were present at the meeting. The working group recommended that CAM-3 contain information about mixing storage device and network access on a fiber channel interconnect.

8.8   SCSI-3 Generic Packetized Protocol (GPP) Status {Project 991-DT} [Stephens]

John reported that the X3 Secretariat had some confusion about the processing ANSI technical reports (since this is a new type of document). Since GPP will be an ANSI Technical Report, a public review period is required even though there is no obligation to accept any public review comments received.

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

Ron reported that the working group reviewed proposed responses to comments (95-277). He said that open/unresolved issues will be covered at working group meetings planned for August. He noted that isochronous sections will be revised at the August meetings and incorporated into the document for review in September. He plans to present a revision for second public review in September. He described a planned request for approval of working group meetings as follows:

> August 15 & 16   Sony America, San Jose, CA
> September 12   Manchester, NH

8.10   SCSI-3 Fiber Channel Protocol (FCP) Status {Project 993-D} [Snively]

Bob reported that FCP revision 12 has been published in the mailing and is ready for a forwarding motion to second public review.

8.11   SCSI-3 Architecture Model (SAM) Status {Project 994-D} [Monia]

Charles reported that SAM revision 17 was mailed to principals and those who submitted public review comments. Charles reported that less than a dozen editorial errors and one technical error have since been discovered. There will be a forwarding motion for second public review later in this meeting.

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

Ralph reported that revision 7 of the SPC was in the last committee mailing. He reported that only minor changes have been approved for the SPC since revision 7, but that four or five major change documents are working their way to approval by the working group. In view of these circumstances, Ralph felt that rolling a new SPC revision would not be useful at this time. Therefore, Ralph reported that there will be no new revision of the SPC in the July/August committee mailing.

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

In the absence of Rick Tewell, John reported that SBC revision 1 was in the last mailing.

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

Ted reported that a new revision of the SSC will be in the next mailing. He reported that a proposal for enhanced support of density handling is undergoing substantial editing. He also described several other topics covered by a working group meeting earlier this week. The minutes of the working group meeting can be found in document number 95-284.

8.15 SCSI-3 Graphics Commands (SGC) Status {Project 998-D} [Tewell]

In Rick's absence, no report was provided.

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

Eric reported on medium changer working group meeting. The meeting minutes can be found in document 95-284. He also noted that SMC revision 4 is available at this meeting and will be in the next mailing.

8.17 SCSI-3 Controller Commands (SCC) Status {Project 1047-D} [Penokie]

George reported that SCC revision 6 is ready for forwarding to second public review. He described the resolution of public review comments discussed at the general working group meeting.

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

Ron reported that the working group has defined a need for a 4-bit field to identify the MMC revision level. The working group recommended byte 3 of INQUIRY command. Ron said that the working group reviewed the functional requirements document, with architectural flows incorporated, from June session. The editor will review opcode usage within MMC document, again. Ron reported a planned request for approval of the following meeting schedule.

       August 2 & 3   at Philips, Sunnyvale, CA
       September 13 in Manchester, NH
       October 3 & 4   at Western Digital, Irvine, CA

8.19 SCSI-3 Fast-20 Parallel Interface (Fast-20) {Project 1071-D} [Lamers]

John reported that the first public review period for Fast-20 closes July 25, 1995.

8.20 AT Attachment-3 Interface (ATA-3) Status {Project 2008-D} [Milligan]

Gene Milligan provided the following AT Attachment status report.

ATAPI Project 1120:

Tom Hanan distributed a revision 0.2 of the candidate working draft. The document includes extractions from SFF-8020 intended to provide transport mechanism and protocol details. It does not redefine ATA signals. The document includes single device overlap but does not contain the proposed proxy interrupt.

Tom plans to dedicate the ATAPI reflector for SFF-8020. The ATA reflector will be used for all of the ATA related X3 projects. Dal requested that the ATAPI and MMC reflectors be merged.

Project 2008 Review of ATA-3 Revision 2 working draft:

Pete McLean provided an updated working draft (rev 2) including the items approved at Harrisburg.

Concerning issues related to an added specific requirement for a 10 K pull up resistor on the data line corresponding to the busy bit and the permissive nature of prior pull up resistor requirements, a two step process

was advocated to determine if the resistor is useful and if it is to then develop appropriate wording for the requirement. Farbod Fahkfarsa volunteered to do a simulation.

In the next revision the timing for BSY will be measured from the trailing edge of reset. The 31 seconds time-out also starts with the trailing edge of reset.

The group recommended that SFF 8034i, which provides recommendations on how to deal with the sharing of some lines of a dual bus logical configuration on a single physical bus be included as an informative annex by a vote of 12:3.

A motion to incorporate SFF-8035i, which is the specification for S.M.A.R.T., into an annex of ATA-3 was deferred until the July meeting to allow the Chair to seek Compaq's input on the motion since they were the only originator of the specification not in attendance.

ATA and ATAPI differences:

Pete McLean had also prepared X3T10/95-254R0 a version of ATA that includes material showing the differences between ATA and ATAPI. He concluded that the only technical conflict he had noticed was the duplication of ID word numbers between the ATA-3 revision information and an ATAPI ID word. The ad hoc agreed to resolve the conflict by having Pete slide the revision words down to eliminate the conflict. Although the group appreciated having the differences spelled out, they rejected the use of 95-254R0 as the basis for ATA-3 by a vote of 11-3.

Command Overlap and Queuing:

Curtis Stevens summarized the results of the 6/2/95 Command Overlap ad-hoc meeting. That meeting took a straw poll on whether the proxy interrupt or the wired-or approach should be taken on interrupts with 12 to 6 in favor of proxy interrupts. That meeting also had a straw poll on the use of service & release vs. overlap mode with 10 in favor of service & release and 8 in favor of overlap.

The differences between the two active proposals were:
1) Interrupts - Proxy vs. Wired-or
2) Drive Selection - Service/Release vs. CS0/CS1
3) TAGs - Extended Registers vs. New Registers vs. Reuse Registers
4) Enable - New Commands vs. Set Features

At the 21-22 June ad hoc Jim McGrath reported on agreements reached among some of the participants on his questions in 95-257r0.

After discussion a motion passed 13:2 that the Service & Release Overlap Proposal (X3T10/95-258r0) be used as the basis for future work on command overlap. Pete McLean was assigned the task of converting 95-258 into specification format.

Project Proposal for ATA+PI:

The ad hoc reviewed the comments accompanying the ballot and recommended responses to the issues raised as follows:

They voted that:

        (1) a statement be added to the ATA+PI project proposal that it is a follow-on project to ATA-3 (2008) and ATAPI (1120) as a response to the comments from Dal Allan 16:0.

        (2) profiles/service interface for system issues per device type be included in the scope of the ATA+PI project proposal 13:1.

(3) Seagate comment #3 be rejected 12:2.

(4) a note be added to legal considerations regarding the security patents unanimous.

(5) X3T10 reject the WD comment 12:3.

Comment Resolution on formation of a new Technical Committee:

The ad hoc reviewed the comments accompanying the ballot and recommended responses to the issues raised as follows:

They voted that:

1) the response to the comments concerning the requirement for additional meetings, be that it is possible that a new technical committee would only require one plenary meeting per year and that meeting could be co-located with X3T10 and that technical issues could be discussed electronically and via letter ballets thus limiting the need to hold additional meetings 6:4.

2) comment (1) also addresses excessive travel and west coast meeting location issues.

3) the identified overlap of ATA and SCSI activities does not exist today, as the bulk of the ATA technical activities are currently not co-located with SCSI technical activities of X3T10 and the current ATA activity during the X3T10 meetings is primarily an update on ATA activities and that a report to X3T10 would be sufficient to meet these needs 8:1.

Document Strategy and Schedule:

The ad hoc passed a motion to recommend X3T10/95-259R0 as the schedule which includes letter balloting of 2008 and 1120 in 11/95 followed by letter balloting ATA + PI in 6/96 12:1.

Meeting Schedule:

The ad hoc recommends the following additional ad hoc meetings:

> July 18-20, 1995 at the Red Lion in San Jose, CA hosted by Quantum.
> > July 19 12:00-3:00 Annex F, 3:00-5:00 Mode 3 DMA
> August 23-25, 1995 at the Crown Sterling Suites in Milpitas, CA hosted by Quantum.
> September 20-22, 1995 at the Crown Sterling Suites in Milpitas, CA hosted by Quantum.
> October 18-20, 1995 at the ??? in Irvine, CA hosted by Phoenix Technologies.
> November 29-December 1, 1995 - at the ??? in Irvine, CA hosted by Western Digital.

On behalf of the ad hoc group Gene Milligan moved that X3T10 accept the recommendations of the ATA ad hoc including the three project schedules (note recommendations of the ad hoc group regarding matters other than the project schedules are to be dealt with separately). The motion passed 39:0:0:17.

8.21   ATA Packet Interface (ATAPI) Status {Project 1120-D} [Milligan]

Gene noted that ATAPI status was included in the AT Attachment report, above.

8.22   Systems Issues Study Group [Penman]

Duncan reported that the meeting this week was a single topic meeting; greater than 8 Mb boot device support on PCs. The minutes of the study group meeting are available in document 95-291.

8.23   SPI-2 Study Group [Ham/Aloisi]

Paul Aloisi reported on the work of the study group meeting. The minutes of the meeting are in document 95-263. Paul called for the controller designers to review carefully the document provided at this meeting, 95-269r1. Paul reviewed study group recommendations for resolution of letter ballot comments on the two project proposals coming from this group.

Paul reported that meeting requests will be made for:

      August 14   Denver (Hosted by Symbios at the Red Lion Hotel)
      Sept 11   in Manchester, NH

8.24   High Availability Study Group [Sicola]

In the absence of Steve Sicola, John Lohmeyer reported that the High Availability study group meeting entailed Steve Sicola's presentation about fault tolerant controller configurations for SCSI about what they are, why they should be standardized, and some options for standardization. George Penokie joined the group and the SCC specification was discussed in detail. The goal was to figure out how it would work in the configurations at issue and to see if something was missing.

It turns out, almost everything is there. The unanswered needs are a couple ASC/ASCQ's for Failover/Failback events and resolution of SCC Component Association Naming, to get around problems in using serial numbers when controllers can be swapped around, but the actual configuration remains unchanged.

The high availability study group does need another meeting and would like it to be Monday afternoon of the September plenary week.

9.   Old Business

9.1   Clarification of international program fee [Allan]

In June, at the suggestion of Jean-Paul Emard (Director of the X3 Secretariat), Roger Cummings sent a letter to ANSI requesting that X3T10, X3T11, and X3T12 members be billed only one IPF since they are collectively represented by SC25/WG4 on international matters. No response has been received yet. Roger Cummings reported on plans to meet with X3 and ANSI leadership regarding this fee the following week.

Roger also reported on some financial figuring that he has been developing. There are about twenty organizations that are getting "double taxed." Several aspects of the fee problem were discussed.

9.2   Addressability of TARGET RESET task management function (94-236r1) [Snively]

At the request of Bob Snively, action on this item was deferred until the next plenary meeting.

9.3   Resolution of SCSI-3 SBP (0992-D) Public Review Comments

At the request of Ron Roberts, action on this item was deferred until the next plenary meeting.

9.4   Resolution of SCSI-3 SCC (1047-D) Public Review Comments

George presented the minor corrections to SCC revision 5 that resulted in revision 6. He described the editorial or technical nature of each change.

George Penokie moved and Gary Watson seconded that X3T10 accept the public review comments resolutions in document 95-220, which resolves the first public review comments, and that SCC rev 6 be forwarded to X3 for further processing (second public review). The motion passed 33:0:0:23.

John Lohmeyer took an action item to forward SCC revision 6 to X3 for further processing (second public review).

9.5 Request for Blocks of Density Codes and Medium Type Codes for QIC Tape Drives (95-201) [Freeman]

Ted Lappin reported that he believes that the new REPORT DENSITY command will be an acceptable resolution to the issues raised by QIC. John provided an overview of the proposal. He asked Alan Olson to take the information to QIC and ask them to verify the acceptability of the REPORT DENSITY proposal. Alan took an action item to review the REPORT DENSITY proposal with QIC.

10. New Business

10.1 Forwarding of SCSI-3 FCP (0993-D) to Second Public Review

Bob Snively moved and Charles Monia seconded that FCP rev 12, which resolves the first public review comments, be forwarded to X3 for further processing (second public review). The motion passed 36:0:0:20.

John Lohmeyer took an action item to forward FCP rev 12 to X3 for further processing (second public review).

10.2 Forwarding of SCSI-3 SAM (0994-D) to Second Public Review

Charles Monia described a technical change required to correct an error in SAM rev 17. The change occurred on page 47, clause 5.3. In the protocol service indication, SCSI command received parameter list Task Address should be Task Identifier.

Charles Monia moved and Bob Snively seconded that SAM rev 17 as modified at this meeting to include several editorial corrections and the correction in clause 5.3 (resulting in rev 18), which resolves the first public review comments, be forwarded to X3 for further processing (second public review). The motion passed 39:0:0:17.

Charles Monia took an action item to prepare SAM rev 18 for forwarding to second public review. John Lohmeyer took an action item to forward SAM rev 18 to X3 for further processing (second public review).

10.3 Results of Letter Ballot on recommending Formation of an ATA TC

John described the letter ballot results for the recommendation to X3 that a new TC be formed to deal with matters regarding ATA. The results can be found in document 95-034r2.

Gene Milligan moved that X3T10 accept the resolution to the letter ballot comments, document 95-282. Joe Chen seconded the motion. A request was duly made for a roll-call vote. The motion passed 19:11:9:17 (=56) as follows:

Organization	Person	S	Yes	No	Abs	NP
3M Company	Mr. Alan R. Olson	P	1			
Adaptec, Inc.	Mr. Norm Harris	P	1			
Advanced Micro Devices	Mr. Ron Apt	P		1		
Amdahl Corp.	Mr. Edward Fong	P	1			
AMP, Inc.	Mr. Charles Brill	P			1	
Amphenol Interconnect	Mr. Michael Wingard	P		1		
Ancot Corp.	Mr. Jan V. Dedek	P	1			
Apple Computer	Mr. Ron Roberts	A	1			
Burr-Brown Corp.	Mr. Dennis R. Haynes	P			1	
BusLogic	Mr. Clifford E. Strang Jr.	P	1			
Ciprico Inc.	Mr. Gerry Johnsen	P			1	
Circuit Assembly Corp.	Mr. Ian Morrell	P			1	
Cirrus Logic Inc.	Mr. Joe Chen	P	1			

Company	Representative	Status				
CMD Technology	Mr. Edward Haske	P				1
Congruent Software, Inc.	Mr. Peter Johansson	P		1		
Conner Peripherals	Mr. Michael Bryan	P		1		
Dallas Semiconductor	Mr. Louis Grantham	P	1			
Digital Equipment Corp.	Mr. Charles Monia	P		1		
Eastman Kodak Co.	Mr. Robert Reiseh	P	1			
ENDL	Mr. I. Dal Allan	P	1			
Exabyte Corp.	Mr. Edward Lappin	P			1	
FSI Consulting Services	Mr. Gary R. Stephens	P	1			
Fujitsu Computer Products, Am	Mr. Kevin R. Pokorney	A			1	
Future Domain Corp.	Mr. Mark Woithe	P				1
Hewlett Packard Co.	Mr. Stephen Holmstead	P		1		
Hitachi Micro Systems, Inc.	Mr. S. Nadershahi	P	1			
Honda Connectors	Mr. David McFadden	P				1
IBM Corp.	Mr. Dan Colegrove	A	1			
IIX Consulting	Mr. Duncan Penman	P	1			
Iomega Corp.	Mr. Geoffrey Barton	P				1
Linfinity Micro	Mr. Dean Wallace	P				1
Madison Cable Corp.	Mr. Robert Bellino	P				1
Maxtor Corp.	Mr. Pete McLean	P		1		
Methode Electronics, Inc.	Mr. Bob Masterson	P				1
Molex Inc.	Mr. Joe Dambach	P				1
NEC Technologies	Mr. Chris D'Iorio	P	1			
Oak Technology, Inc.	Mr. Wayne Baldwin	A	1			
Panasonic Technologies, Inc	Mr. Stephen F. Heil	P				1
QLogic Corp.	Mr. Skip Jones	P		1		
Quantum Corp.	Mr. James McGrath	P	1			
Seagate Technology	Mr. Gene Milligan	P		1		
Sequoia Advanced Tech., Inc.	Mr. Thomas 'Rick' Tewell	P				1
Silicon Systems, Inc.	Mr. Stephen G. Finch	P				1
Sony Corp. of America	Mr. Dick Scheel	A#	1			
Storage Technology Corp.	Mr. Erich Oetting	P			1	
Sun Microsystems Computer Co	Mr. Robert N. Snively	P		1		
Symbios Logic Inc.	Mr. John Lohmeyer	P			1	
SyQuest Technology, Inc.	Mr. Patrick Mercer	P		1		
Tandem Computers	Mr. John Moy	P			1	
Thomas & Betts	Mr. Harvey Waltersdorf	P				1
Trimm Technologies	Mr. Gary M. Watson	P		1		
UNISYS Corporation	Mr. Arlan P. Stone	A			1	
Unitrode Integrated Circuits	Mr. Paul D. Aloisi	P		1		
Western Digital Corporation	Mr. Tom Hanan	A#	1			
Woven Electronics	Mr. Doug Piper	P				1
Zadian Technologies	Mr. Dennis P. Moore	P			1	

Totals: 19 11 9 17 = 56

The following reasons were offered for the no votes. Gene Milligan voted no because the responses failed to respond to the issues raised. Bob Snively and Charles Monia agreed with the opinion expressed by Gene. In addition, Charles specifically objected to the non-responsive nature of the response to comment 1.

John Lohmeyer took an action item to forward the comments resolutions document, roll-call vote results, and reasons for no votes to X3 OMC for their consideration.

10.4   Results of Letter Ballots on 10 Project Proposals

Ken Hallam described the letter ballots comments resolutions processed by X3T10.1. He noted that all the comments resolutions were accepted unanimously by X3T10.1. The comments resolutions can be found in X3T10/95-283r0.

Ken Hallam moved and Gene Milligan seconded that document X3T10/95-283r0 be accepted as the resolution of comments on the project proposals for SSA-PH1, SSA-PH2, SSA-TL1, SSA-TL2, SSA-S2P, and SSA-S3P and that the revised project proposals be forwarded to X3. The motion passed 31:0:0:25.

Gene Milligan changed his letter ballot no vote to a yes on the SCSI-2 mapping document.

John Lohmeyer took an action item to forward the revised project proposals for SSA-PH1, SSA-PH2, SSA-TL1, SSA-TL2, SSA-S2P, and SSA-S3P to X3 for further processing.

Bob Snively moved and Ron Roberts seconded that document X3T10/95-278r0 be accepted as the resolution of comments on the project proposal for FCP-2 and that the revised project proposal be forwarded to X3. The motion passed 34:0:0:22.

John Lohmeyer took an action item to forward the revised project proposal for FCP-2 to X3 for further processing.

Paul Aloisi moved and Erich Oetting seconded that document X3T10/95-280r0 be accepted as the resolution of comments on the project proposals for SPI-2 and EPI and that the revised project proposals be forwarded to X3. The motion passed 33:0:0:23.

John Lohmeyer took an action item to forward revised project proposals for SPI-2 and EPI to X3 for further processing.

For the information of the committee, Gene noted that the votes on the ATA+PI resolution recommendations is contained in his report.

Dal Allan moved and Gene Milligan seconded that document X3T10/95-281r0 be accepted as the resolution of comments on the project proposal for ATA+PI and that the revised project proposals be forwarded to X3. The motion passed 30:2:0:24. Gene Milligan explained that his no vote is based on the rejection of Seagate's comment number three.

Upon acceptance of the comments resolutions, Dal Allan changed his letter ballot no vote to a yes.

John Lohmeyer took an action item to forward revised project proposal for ATA+PI to X3 for further processing.

10.5   Vendor-specific mode page codes for tapes (95-221r1) [Weber]

Ralph Weber moved and Ted Lappin seconded that 95-221r1 be accepted for incorporation into SCSI-3. The motion passed unanimously.

10.6   Power Condition mode page (95-222r1) [Weber]

Gene Milligan moved that 95-222r2 be accepted with the additional note that X3T10 intends that 0Dh be described in SBC as a non-preferred version of 1Ah. George Penokie seconded the motion.

The committee expressed a strong desire that SBC devices be allowed continued use of the 0Dh mode page code for the power condition mode page. Ralph explained that this is the intention of the proposal. Instead of word-smithing the proposal, the committee instructed the editors to allow 0Dh but clearly indicate that 1Ah is the preferred mode page code. The committee assigned an action item to Rick Tewell to document the usage of the 0Dh mode page code in SBC as per the wishes of X3T10.

After discussion, the motion passed unanimously.

11.   ISO Report [Milligan]

Gene Milligan, the X3T10 International Representative, gave an oral report and provided the following electronic report:

ISO Report
10 July 1995

The principal ISO items to report concern the meeting of SC 25 and WG 4 in Montreal in June. Proposals for NWI ballots were reviewed for twenty-one projects: Two for FDDI; Six for SCSI; One for ATA; Two for HIPPI; and Ten for FC. WG 4 agreed to draft resolutions to authorize relevant CD letter ballots and DIS registrations upon receipt of the relevant contributions. In addition three surveys were requested.

WG 4 encouraged the members of SC 25 to indicate your willingness to contribute to the development of New Work Items within the scope of WG 4, just as they do in the plenary meetings, for all those proposed New Work Items which the member body is not in opposition. WG 4 noted that they expect to be able to apply the necessary resources for the completion of the work and they appreciate the review by the member bodies during the CD and DIS ballots.

Publication of two additional International Standards were completed for FDDI Hybrid Ring Control (HRC) and the High Performance Peripheral Interface (HIPPI-PH). This brings the total of published standards under the scope of WG4 to twelve not counting those that have been subsequently withdrawn.

The survey on the preferred course of action for the FDDI to Synchronous Optical Network (SONET) Physical Layer Mapping Function (FDDI SPM) will close in July.

It was agreed to draft a resolution that one project on DIS 9318-5 IPI-2 Tape be discontinued

The working group also reviewed the liaison reports with other organizations. In particular they had very helpful presentations from Michel de Vecchis concerning IEC TC 46 and IEC TC 86 and from Ed Kelly.

Numerous other agenda items were completed as reflected in the forty three resolutions offered on behalf of WG 4 and passed by SC 25. Further reference to the work is contained in the WG 4 minutes and its registry of twenty-six Montreal documents.

The resolutions were:

Resolution WG 4/1

SC 25 authorizes the project editor to submit FDDI PMD-ATS to the SC 25 Secretariat as ISO/IEC DIS 9314-20 for circulation, along with the Disposition of Comments (if any) Report, to SC 25 and ITTF for registration as a DIS for a four-month ballot upon successful completion of the CD ballot.

Resolution WG 4/2

SC 25 authorizes the project editor to submit FDDI LCF-PMD to the SC 25 Secretariat as ISO/IEC DIS 9314-9 for circulation, along with the Disposition of Comments (if any) Report, to SC 25 and ITTF for registration as a DIS for a four-month ballot upon successful completion of the CD ballot.

Resolution WG 4/3

SC 25 authorizes the project editor to submit FDDI MAC-ATS to the SC 25 Secretariat as ISO/IEC DIS 9314-26 for circulation, along with the Disposition of Comments (if any) Report, to SC 25 and ITTF for registration as a DIS for a four-month ballot upon successful completion of the CD ballot.

Resolution WG 4/4

SC 25 instructs its Secretariat to submit the proposed NWI JTC 1/SC 25/WG 4 N633 for a three part FDDI SMT-2 standard (FDDI Station Management -2 Common Services (CS), Isochronous Services (IS), and Packet Services (PS)) to the JTC 1 Secretariat for a NWI ballot.

Resolution WG 4/5

SC 25 instructs its Secretariat to circulate JTC 1/SC 25/WG 4 N632 FDDI Station Management -2 Common Services (CS) as a CD ballot. It further instructs its Secretariat to disregard the results of the CD ballot if the result of the NWI ballot is negative.

Resolution WG 4/6

SC 25 authorizes the project editor to submit FDDI SMT-2-CS to the SC 25 Secretariat, along with the Disposition of Comments (if any) Report, for registration as a DIS for a four-month ballot upon successful completion of the CD ballot.

Resolution WG 4/7

SC 25 instructs its Secretariat to circulate JTC 1/SC 25/WG 4 N635 FDDI Station Management -2 Isochronous Services (IS) as a CD ballot. It further instructs its Secretariat to disregard the results of the CD ballot if the result of the NWI ballot is negative.

Resolution WG 4/8

SC 25 authorizes the project editor to submit FDDI SMT-2-IS to the SC 25 Secretariat, along with the Disposition of Comments (if any) Report, for registration as a DIS for a four-month ballot upon successful completion of the CD ballot.

Resolution WG 4/9

SC 25 instructs its Secretariat to circulate JTC 1/SC 25/WG 4 N634 FDDI Station Management -2 Packet Services (PS) as a CD ballot. It further instructs its Secretariat to disregard the results of the CD ballot if the result of the NWI ballot is negative.

Resolution WG 4/10

SC 25 authorizes the project editor to submit FDDI SMT-2-PS to the SC 25 Secretariat, along with the Disposition of Comments (if any) Report, for registration as a DIS for a four-month ballot upon successful completion of the CD ballot.

Resolution WG 4/11

SC 25 instructs its Secretariat to submit the proposed NWI JTC 1/SC 25/WG 4 Montreal 6 for a FDDI Twisted Pair Physical Layer Medium Dependent (TP-PMD) standard along with JTC 1/SC 25/WG 4 N631 Patent Addendum for the NWI to the JTC 1 Secretariat for a NWI ballot.

Resolution WG 4/12

SC 25 instructs its Secretariat to circulate JTC 1/SC 25/WG 4 N630 FDDI Twisted Pair Physical Layer Medium Dependent (TP-PMD) as a CD ballot. It further instructs its Secretariat to disregard the results of the CD ballot if the result of the NWI ballot is negative.

Resolution WG 4/13

SC 25 authorizes the project editor to submit FDDI TP-PMD to the SC 25 Secretariat, along with the Disposition of Comments (if any) Report, for registration as a DIS for a four-month ballot upon successful completion of the CD ballot.

Resolution WG 4/14

SC 25 instructs its Secretariat to issue a survey among its national bodies requesting input on the following topic:

* Is there a continued interest in completing the publication of ISO/IEC Enhanced Small Device Interface (ESDI) (project 25.13.10.12)? If there is continued interest is any national body willing to provide a new project editor to complete the resolution of DIS letter ballot comments and to prepare the final text?

If the outcome is negative, the secretariat is instructed to take the necessary steps to withdraw the project.

Resolution WG 4/15

SC 25 instructs its Secretariat to submit the proposed NWI JTC 1/SC 25/WG 4 N645 for a SCSI-3 Parallel Interface (SPI) standard to the JTC 1 Secretariat for a NWI ballot.

Resolution WG 4/16

SC 25 instructs its Secretariat to circulate SCSI-3 Parallel Interface (SPI) upon receipt of a later revision to JTC 1/SC 25 N 644 Revision 15 as a CD ballot. It further instructs its Secretariat to disregard the results of the CD ballot if the result of the NWI ballot is negative.

Resolution WG 4/17

SC 25 authorizes the project editor to submit SCSI-3 SPI to the SC 25 Secretariat, along with the Disposition of Comments (if any) Report, for registration as a DIS for a four-month ballot upon successful completion of the CD ballot.

Resolution WG 4/18

SC 25 instructs its Secretariat to submit the proposed NWI JTC 1/SC 25/WG 4 N637 for a SCSI-3 Serial Bus Protocol (SBP) standard to the JTC 1 Secretariat for a NWI ballot.

Resolution WG 4/19

SC 25 instructs its Secretariat to circulate JTC 1/SC 25/WG 4 N644 SCSI-3 Serial Bus Protocol (SBP) as a CD ballot. It further instructs its Secretariat to disregard the results of the CD ballot if the result of the NWI ballot is negative.

Resolution WG 4/20

SC 25 authorizes the project editor to submit SCSI-3 SBP to the SC 25 Secretariat, along with the Disposition of Comments (if any) Report, for registration as a DIS for a four-month ballot upon successful completion of the CD ballot.

Resolution WG 4/21

SC 25 instructs its Secretariat to submit the proposed NWI JTC 1/SC 25/WG 4 N641 for a SCSI-3 Architecture Model (SAM) standard to the JTC 1 Secretariat for a NWI ballot.

Resolution WG 4/22

SC 25 instructs its Secretariat to circulate SCSI-3 Architecture Model (SAM) upon receipt of a later revision to JTC 1/SC 25 N 640 Revision 16 as a CD ballot. It further instructs its Secretariat to disregard the results of the CD ballot if the result of the NWI ballot is negative.

Resolution WG 4/23

SC 25 authorizes the project editor to submit SCSI-3 SAM to the SC 25 Secretariat, along with the Disposition of Comments (if any) Report, for registration as a DIS for a four-month ballot upon successful completion of the CD ballot.

Resolution WG 4/24

SC 25 instructs its Secretariat to submit the proposed NWI JTC 1/SC 25/WG 4 N643 for a SCSI-3 Fast-20 standard to the JTC 1 Secretariat for a NWI ballot.

Resolution WG 4/25

SC 25 instructs its Secretariat to circulate SCSI-3 Fast-20 upon receipt of a later revision to JTC 1/SC 25 N 642 Revision 5 as a CD ballot. It further instructs its Secretariat to disregard the results of the CD ballot if the result of the NWI ballot is negative.

Resolution WG 4/26

SC 25 authorizes the project editor to submit SCSI-3 Fast-20 to the SC 25 Secretariat, along with the Disposition of Comments (if any) Report, for registration as a DIS for a four-month ballot upon successful completion of the CD ballot.

Resolution WG 4/27

SC 25 instructs its Secretariat to submit the proposed NWI JTC 1/SC 25/WG 4 N647 for a SCSI-3 Controller Commands (SCC) standard to the JTC 1 Secretariat for a NWI ballot.

Resolution WG 4/28

SC 25 instructs its Secretariat to circulate SCSI-3 Controller Commands (SCC) upon receipt of a later revision to JTC 1/SC 25 N 646 Revision 4 as a CD ballot. It further instructs its Secretariat to disregard the results of the CD ballot if the result of the NWI ballot is negative.

Resolution WG 4/29

SC 25 authorizes the project editor to submit SCSI-3 SCC to the SC 25 Secretariat, along with the Disposition of Comments (if any) Report, for registration as a DIS for a four-month ballot upon successful completion of the CD ballot.

Resolution WG 4/30

SC 25 authorizes the project editor to submit to the SC 25 Secretariat ISO/IEC DIS 14165-1 FC-PH, along with the Disposition of Report, for registration as a DIS for a four-month ballot.

Resolution WG 4/31

SC 25 instructs its Secretariat to submit the proposed NWI JTC 1/SC 25/WG 4 N639 for a SCSI-3 Fibre Channel Protocol (FCP) standard to the JTC 1 Secretariat for a NWI ballot.

Resolution WG 4/32

SC 25 instructs its Secretariat to circulate SCSI-3 Fibre Channel Protocol (FCP) upon receipt of a later revision to JTC 1/SC 25 N 638 Revision 10 as a CD ballot. It further instructs its Secretariat to disregard the results of the CD ballot if the result of the NWI ballot is negative.

Resolution WG 4/33

SC 25 authorizes the project editor to submit SCSI-3 FCP to the SC 25 Secretariat, along with the Disposition of Comments (if any) Report, for registration as a DIS for a four-month ballot upon successful completion of the CD ballot.

Resolution WG 4/34

SC 25 instructs its Secretariat to ask the UK national body, as the originator, if there is interest in the confirmation of Eurobus A or will withdrawal of IS 6951:1986 be supported.

Resolution WG 4/35

SC 25 instructs its Secretariat to submit a proposed NWI for a AT Attachment standard, upon receipt of a revised replacement, from the US national body, for JTC 1 N 2443, to the JTC 1 Secretariat for a NWI ballot.

Resolution WG 4/36

SC 25 instructs its Secretariat to circulate an ATA text upon receipt of a replacement for JTC 1/SC 25/WG 4 DenHaag 20 as a CD ballot. It further instructs its Secretariat to disregard the results of the CD ballot if the result of the NWI ballot is negative.

Resolution WG 4/37

SC 25 authorizes the project editor to submit the ATA text to the SC 25 Secretariat, along with the Disposition of Comments (if any) Report, for registration as a DIS for a four-month ballot upon successful completion of the CD ballot.

Resolution WG 4/38

SC 25 instructs its Secretariat to issue a survey among its national bodies requesting input on the following topic:

* Is there interest in the development of an ISO/IEC standard for a common SCSI access method? If there is interest, do the national bodies agree that the desirable subcommittee to progress this work would be SC 25 in view of their SCSI expertise, in cooperation with the subcommittee responsible for computer operating systems?

Resolution WG 4/39

SC 25 instructs its Secretariat to withdraw 9318-5 Intelligent Peripheral Interface (IPI) Device-specific tape commands and to take the necessary steps to close the project.

Resolution WG 4/40

SC 25 instructs its Secretariat to submit the following proposed NWIs to the JTC 1 Secretariat for NWI ballots:

>   HIPPI ATM
>   HIPPI SE

Resolution WG 4/41

SC 25 instructs its Secretariat to submit the following proposed NWIs to the JTC 1 Secretariat for NWI ballots:

>   FC PH2
>   FC FG
>   FC LE
>   FC SW
>   FC AL
>   FC GS
>   FC PH3
>   FC ATM
>   FC FP
>   FC SB

Resolution WG 4/42

SC 25 instructs its secretariat to appoint Mr. Milligan liaison to TC 46, TC 48, and TC 86 for JTC 1/SC 25/ WG 4 activity.

Resolution WG 4/43

WG 4 thanks the Standards Council of Canada along with their Canadian sponsors (Northern Telecom, Digital, BNR, Siemens, Bell Canada, Conseil quebecois de la domotique, CABA, Mitel, CSA, Hydro-Quebec, Alactel, Industry Canada Natural Resources Canada Treasury Board Secretariat, and Gouvernement du Quebec Minitere de l' Industrie, du Commerce, de la Science et de la Technologie) for their kind hospitality, the excellent meeting arrangements, and the ambiance of Montreal which has contributed so much to our successful meeting.

John Lohmeyer took an action item to add an agenda item to determine the X3T10 recommendation regarding continuation of the international ESDI project.

Larry Lamers took an action item to prepare a printed copy of the SPI revision 15a for the IR to forward to SC25 for CD ballot.

Charles Monia took an action item to prepare a printed copy of the SAM revision 18 for the IR to forward to SC25 for CD ballot.

Larry Lamers took an action item to prepare a printed copy of FAST-20 revision 6 for the IR to forward to SC25 for CD ballot.

George Penokie took an action item to prepare a printed copy of the SCC revision 6 for the IR to forward to SC25 for CD ballot.

Bob Snively took an action item to prepare a printed copy of the FCP revision 12 for the IR to forward to SC25 for CD ballot.

John Lohmeyer took an action item to add an agenda item covering possible generation of new ISO work items concerning ATA and ATAPI.

John Lohmeyer took an action item to add an agenda item covering possible submission of CAM to ISO.

John thanked Gene and Larry for their hard work at the ISO meeting in Montreal.

12.   Liaison Reports

12.1   X3T11 Liaison Report [Cummings]

X3T11 met on June 14, 1995 with 84 people in attendance. Two member organizations lost membership because of failure to return Letter Ballots (Raytheon and Vitesse), one lost membership for failure to pay fees (E-Systems), and four were added (Fujitsu, Panasonic, McDonnell-Douglas, EMF Associates). The membership of X3T11 is now 59 organizations.

The results of two X3T11 LBs were announced. The Letter Ballot on HIPPI-FC (Rev 4.1) for a first Public Review passed with F46-O00-DNV12 (1 with comments). The Letter Ballot on FC-GS (Rev 1.5) for a first Public Review passed with F42-O01-DNV15 (4 with comments).

X3T11 recommended to JTC 1 TAG to take a position of approval of DIS 11518-2 (HIPPI-FP), 11518-3 (HIPPI-LE) and 11518-6 (HIPPI-SC) by identical roll call votes of F44-O00-DNV15

HIPPI-FC Revision 4.2 (including changes resulting from the X3T11 Letter Ballot comments) was forwarded for a First Public Review by roll call vote of F43-O00-DNV16.

A motion to withdraw HIPPI Serial Standard Project Proposal, and to simultaneously request that Project 1117-DT be converted to 1117-D, passed by a roll call vote of F43-O00-DNV15.

The FC-0 Ad Hoc group reported two serious issues:

 1) Changes have been noted in the IEC standard for SC connector regarding mechanical dimensions of ferrule tip. This may have compatibility issues with existing plant.

 2) Issues have been discovered during large-scale component manufacturing regarding jitter and the techniques used to measure it. An Ad Hoc group will be urgently addressing this issue over the next few months.

A change in scope for FC Switched Fabric (FC-SW) project was rejected and the target date for forwarding a draft corresponding to the original scope was slipped to February 1996.

The Responses to the comments from the Arbitrated Loop (FC-AL) first Public Review were approved by a vote of F45-O00-DNV14. An X3T11 Letter Ballot was authorized on forwarding FC-AL Revision 4.5 for an OMC Review and a second Public Review if necessary.

A draft for the FC Link Encapsulation project (FC-LE, Rev 0.91) was reviewed in detail in an Ad Hoc meeting before the Plenary. A Draft for forwarding is still expected in August 1995.

The editorship issues for the FC Implementation Guide (FC-IG) are still being worked with IBM. Again, any volunteers to help with the final editing of the draft for this project would be welcome.

An X3T11 Letter Ballot on a draft for the 10 bit interface Technical Report project was also authorized.

The next meeting of X3T11 is on August 9 at the Marriott Hotel in Tarrytown, NY. The phone number for the hotel is (914) 631-2200 (note that the phone number given in the first Meeting Announcements was in error).

12.2   SFF Industry Group [Allan]

The SFF liaison report can be found in document 95-292.

12.3   IEEE P1394 [Marazas]

Larry Lamers reported that the P1394 comments have been resolved and the document is being sent to IEEE.

12.4   IEEE P1285 Status [Pak]

John read the P1285 liaison report, found in document 95-279r0. Peter Johansson complained that the following item in the report is incorrect:

> * Isochronous support in P1285 has been used in P1394 to achieve
>   a disk drive capability that supports both asynchronous and
>   isochronous activity.

Peter stated that P1394 has definitely not adopted anything from P1285. Bob Snively questioned other aspects of the liaison report.

12.5   PCMCIA Report [McLean]

Pete McLean reported that the last PCMCIA meeting was two weeks ago. The meeting attendance was very low. The major activity is development of an errata for the document that went out recently.

13.   Review of Action Items

84)   George Penokie will prepare a document (probably a technical report) describing the SPI fairness
       algorithm.
96)   Gene Milligan will provide a letter describing the Seagate patent policy.
97)   Alan Olsen will review the REPORT DENSITY proposal with QIC.
98)   John Lohmeyer will forward SCC rev 6 to X3 for further processing (second public review).
99)   John Lohmeyer will forward FCP rev 12 to X3 for further processing (second public review).
100)   Charles Monia will prepare SAM rev 18 for forwarding to second public review.
101)   John Lohmeyer will forward SAM rev 18 to X3 for further processing (second public review).
102)   John Lohmeyer will forward the ATA TC comments resolutions document (95-282), roll-call vote
       results, and reasons for no votes to X3 OMC for their consideration.
103)   John Lohmeyer will forward the revised project proposals for SSA-PH1, SSA-PH2, SSA-TL1,
       SSA-TL2, SSA-S2P, and SSA-S3P to X3 for further processing.
104)   John Lohmeyer will forward the revised project proposal for FCP-2 to X3 for further
       processing.

105)   John Lohmeyer will forward the revised project proposals for SPI-2 and EPI to X3 for further processing.
106)   John Lohmeyer will forward the revised project proposal for ATA+PI to X3 for further processing.
107)   Gene Milligan will draft a letter to X3 describing the problems with current ANSI patent policies with respect to Technical Reports.
108)   John Lohmeyer will add an agenda item to determine the X3T10 recommendation regarding continuation of the international ESDI project.
109)   Larry Lamers will prepare a printed copy of the SPI revision 15a for the IR to forward to SC25 for CD ballot.
110)   Charles Monia will prepare a printed copy of the SAM revision 18 for the IR to forward to SC25 for CD ballot.
111)   Larry Lamers will prepare a printed copy of FAST-20 revision 6 for the IR to forward to SC25 for CD ballot.
112)   George Penokie will prepare a printed copy of the SCC revision 6 for the IR to forward to SC25 for CD ballot.
113)   Bob Snively will prepare a printed copy of the FCP revision 12 for the IR to forward to SC25 for CD ballot.
114)   John Lohmeyer will add an agenda item covering possible generation of new ISO work items concerning ATA and ATAPI.
115)   John Lohmeyer will add an agenda item covering possible submission of CAM to ISO.
116)   Rick Tewell will document the usage of the 0Dh mode page code in SBC as per the wishes of X3T10 expressed in item 10.6 of the meeting #10 minutes.
117)   X3T10.1 will produce a recommendation of how to represent the SSA roadmap in the SCSI-3 roadmap.

14.   Meeting Schedule

The next plenary meeting of X3T10 will be September 14, 1995, in Bedford, NH, at the Sheraton Tara Wayfarer Inn (603-622-3766), hosted by Digital Equipment Corp. The meeting will begin at 1:00 p.m. on Thursday.

Gene Milligan moved that the September X3T10 Plenary start at 9am instead of 1pm and that the SFF meeting start after the X3T10 Plenary. Skip Jones seconded the motion. After extensive debate, the motion failed 10:13.

The meeting list for the next plenary week is:

September '95 Meeting Map

```
Monday 9/11       9    10   11   12   1    2    3    4    5    6    7    8
                  +=============================+
                  | SPI-2 and EPI Study Group   |                         (30)
                  +==============+==============+
                                 |High Avail. SG |                        (20)
                                 +==============+


Tuesday 9/12      9    10   11   12   1    2    3    4    5    6    7    8
                  +==========================================+
                  |  SCSI-3 WG                               |            (40)
                  +==============+===========================+
                  |  CAM-3 WG    |   SBP WG      |                        (10)
                  +==============+==============+


Wednesday 9/13    9    10   11   12   1    2    3    4    5    6    7    8
                  +==========================================+
                  | SCSI-3 WG                                |            (40)
                  +==============+===========================+
                  | System Issues | MMC Working Group |                   (25)
                  +==============+===========================+
                  |SFF Form Factor| SFF/VHDCI WG        |                 (40)
                  +--------------+-------------------+


Thursday 9/14     9    10   11   12   1    2    3    4    5    6    7    8    9
                  +--------------+==============================+
                  |  SFF          | X3T10 Plenary               |         (40/80)
                  +==============+==============================+
                  |  SSC/SMC WG   |                                       (10)
                  +==============+


Friday 9/15    8    9    10   11   12

               (No meetings planned for Friday)
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    Meetings marked with == are X3T10-authorized meetings.
    Meetings marked with -- are authorized by other groups and may change
    without notice.

22

Meeting Map Abbreviation Key:
```
ATA:            AT Attachment (a.k.a. IDE)
ATA-2:          ATA Extensions
ATA-3:          Third Generation ATA
ATAPI:          ATA Packet Interface
CAM:            Common Access Method
CAM-3:          Next generation CAM for SCSI-3 (was called CAM-2)
EPI:            SCSI Enhanced Parallel Interface (Technical Report)
Fast-20:        Synchronous Data Transfer at 20 Megatransfers/second
FC-AL:          Fibre Channel - Arbitrated Loop (an X3T11 project)
I/F:            Interface
High Avail.:    High Availability
LB:             Letter Ballot
MMC:            SCSI-3 Multimedia Commands (CD-ROM)
P1394:          IEEE Project on High Performance Serial Bus (not an X3
                activity)
PH:             Physical (Connectors, Cables, Transceivers, etc.)
Plenary:        Full Committee Meeting
RAB:            RAID Advisory Board (not an X3 activity)
RAID:           Redundant Array of Independent Devices
SBP:            SCSI-3 Serial Bus Protocol (for 1394)
SCC:            SCSI-3 Controller Commands (RAID)
SCSI:           Small Computer System Interface
SFF:            SFF Industry Group (not an X3 activity)
SG:             Study Group
SMC:            SCSI-3 Medium Changer Commands
SPI2:           Second Generation SCSI-3 Parallel Interface
SSA:            Serial Storage Interface
SSC:            SCSI-3 Stream Commands (includes Tape)
SSP:            Serial Storage Protocol (Protocol for SSA)
UIG:            User Interest Group (not an X3 activity)
VHDCI           Very High Density Cabled Interconnect
WG:             Working Group (same as Ad Hoc Group)
X3T10:          Lower Level Interfaces Technical Committee (was X3T9.2)
X3T10.1:        SSA Task Group of X3T10 (was X3T9.7)
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Several other X3T10 events are also planned:

Event	Day/Date	Time	Location/contact
SBP Working Group	Tu 8/15-16	9 am	Sony in San Jose/Roberts
MMC Working Group	We 8/2-3	9 am	Philips in Sunnyvale/Roberts
MMC Working Group	Tu 10/3-4	9 am	WD in Irvine, CA/Roberts
ATA Working Group	Tu 7/18-20	9 am	Red Lion in San Jose/McGrath
ATA Working Group	We 8/23-25	9 am	Crown Sterling Suites Milpitas/McGrath
ATA Working Group	We 9/20-22	9 am	Crown Sterling Suites Milpitas/McGrath
ATA Working Group	We 10/18-20	9 am	Phoenix in Irvine, CA/
ATA Working Group	We 11/29-12/1	9 am	WD in Irvine, CA/
SPI-2 Study Group	Mo 8/14	9 am	Red Lion in Denver, CO/Lohmeyer
SI Study Group	last 1/2 day of each ATA Working Group, beginning August 25		

For more information about X3T10 activities, please contact the following people:

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---------------------------  --------------  -------------------------------
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The long-term X3T10 meeting week schedule is:

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Date             Location                  Host/Comments
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Sep 10-15, 1995  Manchester, NH            Digital
Nov  5-10, 1995  Palm Springs, CA          Western Digital
Jan  8-12, 1996  Dallas, TX                Quantum
Mar 11-15, 1996  Newport Beach, CA         QLogic
May  6-10, 1996  Ft. Lauderdale, FL        Adaptec
Jul 15-19, 1996  Colorado Springs, CO      Symbios Logic
Sep  9-13, 1996  Natick, MA (near Boston)  Digital
Nov  4- 8, 1996  Palm Springs, CA          Western Digital
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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 X3T10 (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 X3T10.

In the absence of any objection, X3T10 authorized the X3T10-related meetings and events in the list above.

15.   Adjournment

24

The meeting was adjourned at 6:50 p.m. on Thursday July 13, 1995.

Meeting Attendees -- Enclosure (1)

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Status Key: P   -   Principal
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             O   -   Observer
             L   -   Liaison
             V   -   Visitor

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Jul 18, 1995 – X3T10 Document Register – Enclosure (3)

X3T10/95-001R0   Date: 1/20/95 Author: J. Lohmeyer [SY-95-01]
Desc: X3T10 Project Summary

X3T10/95-001R1   Date: 3/20/95 Author: J. Lohmeyer [SY-95-02]
Desc: X3T10 Project Summary

X3T10/95-002R0   Date: 1/20/95 Author: J. Lohmeyer [SY-95-01]
Desc: X3T10 Draft Agenda for Meeting #8

X3T10/95-003R0   Date: 1/20/95 Author: J. Lohmeyer [SY-95-01]
Desc: Jeopardy Letter for Mar '95 Meeting

X3T10/95-004R0   Date: 1/20/95 Author: J. Lohmeyer [SY-95-01]
Desc: Letter Ballot on Forwarding ATA-2 to 1PR

X3T10/95-005R0   Date: 1/26/95 Author: J. Lohmeyer [SY-95-01]
Desc: Letter requesting that Project 964-D (DADI) be withdrawn

X3T10/95-006R0   Date: 1/27/95 Author: J. Lohmeyer [SY-95-01]
Desc: Transmittal letter on SCC Rev 4 to first public review

X3T10/95-007R0   Date: 2/2/95 Author: J. Lohmeyer [SY-95-02]
Desc: Transmittal letter on SCSI-2 TIBs #1 and #2

X3T10/95-008R0   Date: 3/20/95 Author: J. Lohmeyer [SY-95-02]
Desc: X3T10 Draft Agenda for Meeting #9

X3T10/95-009R0   Date: 3/20/95 Author: J. Lohmeyer [SY-95-02]
Desc: Jeopardy Letter for May '95 Meeting

X3T10/95-010R0   Date: 3/20/95 Author: J. Lohmeyer [SY-95-02]
Desc: I/O Interface Related Reflectors (mailing lists)

X3T10/95-011R0   Date: 3/20/95 Author: J. Lohmeyer [SY-95-02]
Desc: ltr to Stuart Mabon, Micropolis, re patent 5,191,584

X3T10/95-012R0   Date: 3/21/95 Author: J. Lohmeyer [SY-95-02]
Desc: X3T10 Annual Report (April 1994 -- March 1995)

X3T10/95-013R0   Date: 5/13/95 Author: J. Lohmeyer [SY-95-03]
Desc: Cover Letter on May/June '95 Letter Ballots

X3T10/95-014R0   Date: 5/13/95 Author: J. Lohmeyer [SY-95-03]
Desc: Letter Ballot on Recommending that an ATA TC be formed

X3T10/95-015R0   Date: 5/13/95 Author: J. Lohmeyer [SY-95-03]
Desc: Letter Ballot on Forwarding ATA+PI Project Proposal

X3T10/95-016R0   Date: 5/13/95 Author: J. Lohmeyer [SY-95-03]
Desc: Letter Ballot on Forwarding SPI-2 Project Proposal

X3T10/95-017R0   Date: 5/13/95 Author: J. Lohmeyer [SY-95-03]
Desc: Letter Ballot on Forwarding ESPC Technical Report Project Proposal

X3T10/95-018R0   Date: 5/13/95 Author: J. Lohmeyer [SY-95-03]
Desc: Letter Ballot on Forwarding FCP-2 Project Proposal

X3T10/95-019R0   Date: 5/13/95 Author: J. Lohmeyer [SY-95-03]
Desc: Letter Ballot on Forwarding SSA-PH1 Project Proposal

X3T10/95-020R0   Date: 5/13/95 Author: J. Lohmeyer [SY-95-03]
Desc: Letter Ballot on Forwarding SSA-PH2 Project Proposal

X3T10/95-021R0   Date: 5/13/95 Author: J. Lohmeyer [SY-95-03]
Desc: Letter Ballot on Recommending Revised Scope and Name for Project 0989-D

X3T10/95-022R0   Date: 5/13/95 Author: J. Lohmeyer [SY-95-03]
Desc: Letter Ballot on Forwarding SSA-TL2 Project Proposal

X3T10/95-023R0   Date: 5/13/95 Author: J. Lohmeyer [SY-95-03]
Desc: Letter Ballot on Changing Project 1121-DT to a Standards Project

X3T10/95-024R0   Date: 5/13/95 Author: J. Lohmeyer [SY-95-03]
Desc: Letter Ballot on Changing Name for Project 1051-D

X3T10/95-025R0   Date: 5/16/95 Author: J. Lohmeyer [SY-95-03]
Desc: ltr to Ray Freeman re QIC request for Density Codes (ref 95-201)

X3T10/95-026R0   Date: 5/16/95 Author: J. Lohmeyer [SY-95-03]
Desc: Draft Agenda for July '95 X3T10 Meeting

X3T10/95-027R0   Date: 5/16/95 Author: J. Lohmeyer [SY-95-03]
Desc: X3T10 Project Summary (May '95)

X3T10/95-028R0   Date: 5/16/95 Author: J. Lohmeyer [SY-95-03]
Desc: Jeopardy Letter for Jul '95 Meeting

X3T10/95-029R0   Date: 5/19/95 Author: J. Lohmeyer [SY-95-03]

Desc: ltr to Bill Galloway, Compaq Computer Corp., re patent 5,375,243

X3T10/95-030R0   Date: 6/17/95 Author: [SY-95-04]
Desc: reserved for sy-95-04 mailing

X3T10/95-031R0   Date: 6/17/95 Author: [SY-95-04]
Desc: reserved for sy-95-04 mailing

X3T10/95-032R0   Date: 6/17/95 Author: [SY-95-04]
Desc: reserved for sy-95-04 mailing

X3T10/95-033R0   Date: 6/17/95 Author: [SY-95-04]
Desc: reserved for sy-95-04 mailing

X3T10/95-034R0   Date: 6/17/95 Author: J. Lohmeyer [SY-95-04]
Desc: Results of X3T10 Letter Ballots 95-014 through 95-024

X3T10/95-101R0   Date: 1/1/95 Author: Milligan/Lamers [SY-95-01]
Desc: Minutes of ATA-3 Working Group - 11/30/94

X3T10/95-102R0   Date: 1/11/95 Author: D. Worrell [SY-95-01]
Desc: Proposal for Enhanced IDE 95 Features

X3T10/95-103R0   Date: 1/16/95 Author: R. Weber [sy-95-01]
Desc: Attached Medium Changer Operation Codes

X3T10/95-103R2   Date: 1/16/95 Author: R. Weber [sy-95-02]
Desc: Attached Medium Changer Operation Codes

X3T10/95-104R0   Date: 1/16/95 Author: S. Smyers [SY-95-01]
Desc: CDR Command Proposal

X3T10/95-105R0   Date: 1/16/95 Author: G. Penokie [SY-95-01]
Desc: Fast-20 Letter ballot comments

X3T10/95-106R0   Date: 1/16/95 Author: G. Penokie [SY-95-01]
Desc: SPC comments

X3T10/95-107R0   Date: 1/16/95 Author: G. Penokie [SY-95-02]
Desc: Public Review Comment #1 on SAM (X3.270)

X3T10/95-108R0   Date: 1/16/95 Author: G. Penokie [SY-95-01]
Desc: XOR Commands comments

X3T10/95-109R1   Date: 1/16/95 Author: T. Asami [SY-95-01]
Desc: Fast-20 Definition

X3T10/95-110R0   Date: 1/16/95 Author: C. Monia [SY-95-01]
Desc: Comparison of CA & ACA

X3T10/95-111R0   Date: 1/16/95 Author: D. Colegrove [SY-95-01]
Desc: PFA for ATA

X3T10/95-111R1   Date: 1/16/95 Author: D. Colegrove [SY-95-02]
Desc: PFA for ATA

X3T10/95-112R1   Date: 1/16/95 Author: L. Sloan [SY-95-01]
Desc: Presentation on 3rd Party Operations

X3T10/95-113R0   Date: 1/16/95 Author: L. Sloan [SY-95-02]
Desc: Technical details on 3rd Party Proposal

X3T10/95-114R0   Date: 1/16/95 Author: J. Elrod [SY-95-01]
Desc: Minutes of XOR Study Group - Jan '95

X3T10/95-115R0   Date: 1/16/95 Author: J. Molina [SY-95-01]
Desc: Letter on hotel locations

X3T10/95-116R0   Date: 1/16/95 Author: G. Stephens [SY-95-01]
Desc: Response for GPP Letter Ballot

X3T10/95-117R0   Date: 1/16/95 Author: E. Lappin [SY-95-01]
Desc: Space past EOD

X3T10/95-118R0   Date: 1/16/95 Author: E. Lappin [SY-95-01]
Desc: READ POSITION

X3T10/95-118R1   Date: 1/16/95 Author: E. Lappin [SY-95-02]
Desc: READ POSITION

X3T10/95-119R0   Date: 1/16/95 Author: R. Roberts [SY-95-01]
Desc: Minutes of MMC Working Group - Jan '95

X3T10/95-120R0   Date: 1/16/95 Author: Lamers/Milligan [SY-95-01]
Desc: Minutes of ATA-3 Working Group - 1/11-12/95

X3T10/95-121R0   Date: 1/16/95 Author: S. Finch [SY-95-01]
Desc: ATA-2 Annex F Issues

X3T10/95-122R0   Date: 1/16/95 Author: J. Chen [SY-95-01]

Desc: ATA 22MB/sec Timing Proposal

X3T10/95-123R0   Date: 1/16/95 Author: J. Lohmeyer [SY-95-01]
Desc: Letter ballot results from mailing SY-9406

X3T10/95-124R0   Date: 1/16/95 Author: G. Penokie [SY-95-02]
Desc: Public Review Comment #1 on FCP (X3.269)

X3T10/95-125R0   Date: 1/16/95 Author: M. Chow [SY-95-01]
Desc: Dynamic Power Selection in ATA

X3T10/95-125R2   Date: 1/16/95 Author: M. Chow [SY-95-03]
Desc: Dynamic Power Selection in ATA

X3T10/95-126R0   Date: 1/16/95 Author: L. Leach [SY-95-01]
Desc: Cable Error Detection Proposal

X3T10/95-127R0   Date: 1/16/95 Author: D. Penman [SY-95-01]
Desc: Additional ATA-3 Topics

X3T10/95-128R0   Date: 1/16/95 Author: D. Pak [SY-95-01]
Desc: Liaison Report from 1285

X3T10/95-129R0   Date: 1/16/95 Author: R. Weber [SY-95-01]
Desc: Minutes of SCSI Working Group - Jan '95

X3T10/95-130R0   Date: 1/16/95 Author: R. Weber [SY-95-01]
Desc: Minutes of X3T10 Plenary Meeting #7

X3T10/95-131R0   Date: 1/16/95 Author: D. Penman [SY-95-01]
Desc: ATA Systems Issues

X3T10/95-132R0   Date: 1/16/95 Author: T. Lappin [SY-95-01]
Desc: Write without reaad block mode control

X3T10/95-132R1   Date: 1/16/95 Author: T. Lappin [SY-95-02]
Desc: Write without reaad block mode control

X3T10/95-133R0   Date: 1/16/95 Author: T. Lappin [SY-95-01]
Desc: Clearing ASC/ASCQ

X3T10/95-133R1   Date: 1/16/95 Author: T. Lappin [SY-95-02]
Desc: Clearing ASC/ASCQ

X3T10/95-134R0   Date: 1/16/95 Author: T. Lappin [SY-95-01]
Desc: Write protect control

X3T10/95-135R0   Date: 1/16/95 Author: R. Weber [SY-95-01]
Desc: Status of AIIM C21 M559 Standard at X3T10

X3T10/95-136R0   Date: 1/24/95 Author: B. Dallas [SY-95-01]
Desc: Minutes of CAM WG - 1/'95

X3T10/95-137R0   Date: 1/18/95 Author: K. Calvert [SY-95-01]
Desc: Letter re: Copyright Release for ATASPI

X3T10/95-138R0   Date: 1/26/95 Author: M. Alexenko [SY-95-01]
Desc: SCAM issues in SPI rev 15

X3T10/95-139R0   Date: 1/26/95 Author: J. Lohmeyer [SY-95-01]
Desc: Minimum Active Negation Current Issue

X3T10/95-139R1   Date: 2/1/95 Author: J. Lohmeyer []
Desc: Minimum Active Negation Current Issue

X3T10/95-139R2   Date: 2/8/95 Author: J. Lohmeyer [sy-95-02]
Desc: Minimum Active Negation Current Issue

X3T10/95-140R0   Date: 1/27/95 Author: F. Podia [SY-95-01]
Desc: Use of Log Pages Assigned by X3T10 to AIIM B21

X3T10/95-141R0   Date: 1/27/95 Author: K. Calvert [SY-95-01]
Desc: ATASPI Presentation

X3T10/95-142R0   Date: 1/27/95 Author: K. Calvert [SY-95-01]
Desc: ATASPI Specification

X3T10/95-143R0   Date: 1/27/95 Author: D. Worrell [SY-95-01]
Desc: ATA-3 Features Proposal

X3T10/95-144R0   Date: 2/8/95 Author: H. Landis [SY-95-02]
Desc: Identify DMA proposal

X3T10/95-145R0   Date: 2/8/95 Author: H. Landis [SY-95-02]
Desc: Device 1 Only proposal

X3T10/95-146R0   Date: 2/9/95 Author: Lamers/Lohmeyer [SY-95-02]
Desc: Electronic Notification Procedure

X3T10/95-147R0   Date: 2/9/95 Author: Lamers/Lohmeyer [SY-95-02]

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Desc: Preparing Documents for Committee Mailings

X3T10/95-148R0        Date: 2/9/95  Author: Lamers/Lohmeyer  [SY-95-02]
Desc: Procedure for Funding X3T10 Technical Editors

X3T10/95-149R0        Date: 2/12/95  Author: R. Roberts  [SY-95-02]
Desc: Minutes of MMC Working Group - Feb 95

X3T10/95-150R0        Date: 2/15/95  Author: Lamers/Milligan  [SY-95-02]
Desc: Minutes of ATA-3 Working Group - 1/26/95

X3T10/95-151R1        Date: 2/15/95  Author: Lamers/Milligan  [SY-95-02]
Desc: Minutes of ATA-3 Working Group - 2/15-16/95

X3T10/95-152R0        Date: 2/15/95  Author: J. McGrath  [SY-95-02]
Desc: Problems with System Implementation of Dual Ports

X3T10/95-153R0        Date: 2/15/95  Author: C. Stevens  [SY-95-02]
Desc: Enhanced Disk Drive Specification

X3T10/95-154R0        Date: 2/15/95  Author: H. Landis  [SY-95-02]
Desc: Version Identification in ATA

X3T10/95-154R1        Date: 2/15/95  Author: G. Milligan  [SY-95-03]
Desc: Version Identification in ATA

X3T10/95-155R0        Date: 2/15/95  Author: H. Landis  [SY-95-02]
Desc: Comment on clause 10.5 of ATA-2

X3T10/95-156R0        Date: 2/15/95  Author: H. Landis  [SY-95-02]
Desc: BIOS Types, CHS Translation, LBA and other Good Stuff

X3T10/95-157R0        Date: 2/28/95  Author: J. Lohmeyer  [SY-95-02]
Desc: Flowchart on X3T10 procedures

X3T10/95-158R0        Date: 3/2/95  Author: G. Penokie  [SY-95-02]
Desc: IBM Patent Policy for SCC

X3T10/95-159R0        Date: 3/8/95  Author: L. Sloan  [SY-95-02]
Desc: Distributed SCSI I/O: Status and New Issues

X3T10/95-160R0        Date: 3/8/95  Author: L. Sloan  [SY-95-02]
Desc: Public Review Comment #2 on SAM (X3.270)

X3T10/95-161R0        Date: 3/8/95  Author: G. Houlder  [SY-95-02]
Desc: Minutes of XOR Study Group

X3T10/95-162R1        Date: 3/8/95  Author: Lamers/Milligan  [SY-95-02]
Desc: Minutes of ATA Working Group - 3/8-9/95

X3T10/95-163R0        Date: 3/9/95  Author: J. Chen  [SY-95-02]
Desc: Comments on ATA-2

X3T10/95-164R0        Date: 3/9/95  Author: T. Pione  [SY-95-02]
Desc: Worldwide Industry Hardware Support

X3T10/95-165R0        Date: 3/9/95  Author: T. Pione  [SY-95-02]
Desc: ATAPI Test Program

X3T10/95-166R0        Date: 3/9/95  Author: J. Lohmeyer  [SY-95-02]
Desc: ATA-2 Forwarding Letter Ballot Results

X3T10/95-167R0        Date: 3/9/95  Author: C. Patton  [SY-95-02]
Desc: ATA Electrical Simulation Plots

X3T10/95-168R0        Date: 3/9/95  Author: J. McGrath  [SY-95-02]
Desc: ATA Electrical Issues with 2 Ports

X3T10/95-168R1        Date: 3/9/95  Author: J. McGrath  [SY-95-03]
Desc: ATA LIne Termination Issues

X3T10/95-169R0        Date: 3/9/95  Author: R. Roberts  [SY-95-02]
Desc: Minutes of MMC Working Group - 3/8/95

X3T10/95-170R0        Date: 3/9/95  Author: Weber/Lohmeyer  [SY-95-02]
Desc: SCSI Working Group Minutes - 3/95

X3T10/95-171R0        Date: 3/9/95  Author: Weber/Lohmeyer  [SY-95-02]
Desc: Minutes of X3T10 Plenary Meeting #8

X3T10/95-172R0        Date: 3/9/95  Author: Weber/Lohmeyer  [SY-95-02]
Desc: SPI Futures Working Group Minutes - 3/95

X3T10/95-173R0        Date: 3/9/95  Author: D. Pak  [SY-95-02]
Desc: P1285 Liaison Report - 3/95

X3T10/95-174R0        Date: 3/9/95  Author: B. Dallas  [SY-95-02]
Desc: Minutes of the CAM-3 Working Group - 3/95

X3T10/95-175R0        Date: 3/17/95  Author: P. Johansson  [SY-95-02]
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Desc: Editorial Correction to SPI rev 15

X3T10/95-176R0          Date: 3/17/95  Author: L. Barra  [SY-95-02]
Desc: Public Review Comment on FCP (X3.269)

X3T10/95-177R0          Date: 3/17/95  Author: L. Barra  [SY-95-02]
Desc: Public Review Comment on SAM (X3.270)

X3T10/95-178R0          Date: 3/17/95  Author: K. Gingerich  [SY-95-02]
Desc: Comments on Fast-20

X3T10/95-179R0          Date: 3/17/95  Author: P. Aloisi  [SY-95-02]
Desc: 3.3 Volt SCSI Termpower

X3T10/95-180R0          Date: 3/17/95  Author: P. Aloisi  [SY-95-02]
Desc: SCSI-3 SPI Low Voltage

X3T10/95-181R0          Date: 3/17/95  Author: P. Aloisi  [SY-95-02]
Desc: Low Power SCSI

X3T10/95-182R0          Date: 3/17/95  Author: P. Aloisi  [SY-95-02]
Desc: proposed working draft SPI-LP

X3T10/95-183R0          Date: 3/17/95  Author: P. Aloisi  [SY-95-02]
Desc: Project Proposal for SPI-LV Standard

X3T10/95-184R0          Date: 3/17/95  Author: P. Aloisi  [SY-95-02]
Desc: SPI Hot Swapping/Plugging

X3T10/95-185R0          Date: 3/20/95  Author: T. Lappin  [SY-95-02]
Desc: Minutes of the SSC Meeting - 03/95

X3T10/95-186R0          Date: 3/25/95  Author: C. Monia  [SY-95-02]
Desc: Public Review Comment #1 on SBP (X3.268)

X3T10/95-187R0          Date: 3/25/95  Author: T. Wickland  [SY-95-02]
Desc: Public Review Comment #3 on SAM (X3.270)

X3T10/95-188R0          Date: 3/25/95  Author: G. Witalka  [SY-95-02]
Desc: Public Review Comment #2 on FCP (X3.269)

X3T10/95-189R0          Date: 3/25/95  Author: C. Monia  [SY-95-02]
Desc: Public Review Comment #3 on FCP (X3.269)

X3T10/95-190R0          Date: 3/25/95  Author: L. Sloan  [SY-95-02]
Desc: Public Review Comment #4 on FCP (X3.269)

X3T10/95-191R0          Date: 3/25/95  Author: G. Stephens  [SY-95-02]
Desc: Public Review Comment #5 on FCP (X3.269)

X3T10/95-192R0          Date: 3/25/95  Author: S. Smyers  [SY-95-02]
Desc: Public Review Comment #2 on SBP (X3.268)

X3T10/95-193R0          Date: 3/30/95  Author: L. Sloan  [SY-95-03]
Desc: Public Review Comment #n on CAM (X.232)

X3T10/95-194R0          Date: 4/4/95  Author: P. McLean  []
Desc: Overlap Proposal

X3T10/95-194R1          Date: 4/20/95  Author: P. McLean  [SY-95-03]
Desc: Overlap Proposal

X3T10/95-195R0          Date: 4/8/95  Author: R. Roberts  [SY-95-03]
Desc: Minutes of MMC Working Group - 3/29-30/95

X3T10/95-196R0          Date: 4/11/95  Author: Lamers/Lohmeyer  [SY-95-03]
Desc: Minutes of Server SCSI Working Group - 4/10/95

X3T10/95-197R0          Date: 4/11/95  Author: K. Gingerich  [SY-95-03]
Desc: Power Dissipation Analysis

X3T10/95-198R0          Date: 4/12/95  Author: Lamers/Milligan  []
Desc: Minutes of ATA Working Group - 4/11-13/95

X3T10/95-198R1          Date: 4/18/95  Author: Lamers/Milligan  [SY-95-03]
Desc: Minutes of ATA Working Group - 4/11-13/95

X3T10/95-199R0          Date: 4/12/95  Author: T. Hanan  [SY-95-03]
Desc: Driver Current for ATA-3

X3T10/95-200R0          Date: 4/13/95  Author: H. Landis  [SY-95-03]
Desc: Default Set Multiple Value

X3T10/95-201R0          Date: 3/21/95  Author: J. Lohmeyer  [SY-95-03]
Desc: Request for denisty codes and medium type codes for QIC

X3T10/95-202R1          Date: 4/25/95  Author: C. Monia  [SY-95-03]
Desc: Proposed Responses to SAM Public Review Comments

X3T10/95-203R0          Date: 4/26/95  Author: C. Binford  [SY-95-03]
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Desc: Proposal to handle unconfirmed FCP_RSP

X3T10/95-204R0   Date: 4/27/95 Author: R. Snively [SY-95-03]
Desc: Response to Public Review Comments on FCP

X3T10/95-205R0   Date: 5/3/95 Author: P. McLean [SY-95-03]
Desc: ATA-3 issues with ATAPI

X3T10/95-206R0   Date: 5/3/95 Author: B. Dallas [SY-95-03]
Desc: Response to Public Review Comments on CAM

X3T10/95-207R0   Date: 5/8/95 Author: J. Lohmeyer [SY-95-03]
Desc: Project Proposal for SPI-2 Standard

X3T10/95-208R0   Date: 5/8/95 Author: E. Gardner [SY-95-03]
Desc: FCP or DDA Profile use of Disconnect-Reconnect Mode Page

X3T10/95-209R0   Date: 5/8/95 Author: R. Weber [SY-95-03]
Desc: Minutes of SPI Futures Study Group - 5/95

X3T10/95-210R0   Date: 5/8/95 Author: R. Weber [SY-95-03]
Desc: Minutes of SCSI Working Group - 5/95

X3T10/95-211R0   Date: 5/8/95 Author: Weber/Lohmeyer [SY-95-03]
Desc: Minutes of X3T10 Plenary Meeting #9

X3T10/95-212R0   Date: 5/9/95 Author: C. Binford [SY-95-03]
Desc: Public Review Comment on SCC

X3T10/95-213R0   Date: 5/9/95 Author: B. Ham [SY-95-03]
Desc: Project Proposal for Expanded System Physical Configuration (ESPC) Technical Report

X3T10/95-214R0   Date: 5/10/95 Author: Lamers/Milligan [SY-95-03]
Desc: Minutes of ATA Working Group - 5/10-11/95

X3T10/95-215R0   Date: 5/11/95 Author: R. Roberts [SY-95-03]
Desc: Minutes of MMC Working Group - 5/10/95

X3T10/95-216R0   Date: 5/11/95 Author: D. Allan [SY-95-03]
Desc: Report on SFF-8020 Ballot

X3T10/95-217R0   Date: 5/11/95 Author: S. Sicola [SY-95-03]
Desc: Fault tolerant configurations for SCSI

X3T10/95-218R0   Date: 5/11/95 Author: G. Frazier [SY-95-03]
Desc: New Error Notification Log Page

X3T10/95-219R0   Date: 5/11/95 Author: J. McGrath []
Desc: Project Proposal for ATA+PI Standard

X3T10/95-219R1   Date: 5/11/95 Author: J. McGrath [SY-95-03]
Desc: Project Proposal for ATA+PI Standard

X3T10/95-220R0   Date: 5/13/95 Author: G. Penokie [SY-95-03]
Desc: Response to public review comments on SCC

X3T10/95-221R0   Date: 5/13/95 Author: R. Weber [SY-95-03]
Desc: Vendor specific mode page codes for tape

X3T10/95-222R0   Date: 5/13/95 Author: R. Weber [SY-95-03]
Desc: Power condition mode page code

X3T10/95-223R0   Date: 5/13/95 Author: R. Roberts [SY-95-03]
Desc: MMC Functional Requirements

X3T10/95-224R0   Date: 5/13/95 Author: T. Lappin [SY-95-03]
Desc: Report Density Support

X3T10/95-225R0   Date: 5/13/95 Author: R. Cummings [SY-95-03]
Desc: X3T11 Change Control Procedure

X3T10/95-226R0   Date: 5/13/95 Author: E. Oetting [SY-95-03]
Desc: Minutes of SMC/SCC Working Group - 5/95

X3T10/95-227R0   Date: 5/13/95 Author: D. Penman [SY-95-03]
Desc: Minutes of System Issues Study Group - 5/95

X3T10/95-228R0   Date: 5/13/95 Author: R. Snively [SY-95-03]
Desc: Project Proposal for FCP-2 Standard

X3T10/95-229R0   Date: 5/13/95 Author: R. Snively [SY-95-03]
Desc: Proposal for Persistent Reserve

X3T10/95-230R0   Date: 5/13/95 Author: G. Milligan [SY-95-03]
Desc: Memorandum of Understanding

X3T10/95-231R0   Date: 5/13/95 Author: G. Milligan [SY-95-03]
Desc: TAG Annual Report

X3T10/95-232R0   Date: 5/13/95 Author: J. Elrod [SY-95-03]
Desc: Minutes of XOR Study Group - 5/95

X3T10/95-233R0   Date: 5/13/95 Author: G. Scherer [SY-95-03]
Desc: Public Review Comment # on FCP (from Emulex)

X3T10/95-234R0   Date: 5/13/95 Author: Scheible/Lamers [SY-95-03]
Desc: Project Proposal for SSA-PH1 Standard

X3T10/95-235R0   Date: 5/13/95 Author: Scheible/Lamers [SY-95-03]
Desc: Project Proposal for SSA-PH2 Standard

X3T10/95-236R0   Date: 5/13/95 Author: Scheible/Lamers [SY-95-03]
Desc: Project Proposal for SSA-TL1 Standard

X3T10/95-237R0   Date: 5/13/95 Author: Scheible/Lamers [SY-95-03]
Desc: Project Proposal for SSA-TL2 Standard

X3T10/95-238R0   Date: 5/13/95 Author: Scheible/Lamers [SY-95-03]
Desc: Project Proposal for SSA-S2P Standard

X3T10/95-239R0   Date: 5/13/95 Author: Scheible/Lamers [SY-95-03]
Desc: Project Proposal for SSA-S3P Standard

X3T10/95-240R0   Date: 5/22/95 Author: J. Lohmeyer [SY-95-03]
Desc: SCAM Mode Page Proposal

X3T10/95-241R0   Date: 5/22/95 Author: [SY-95-03]
Desc:

X3T10/95-243R0   Date: 6/2/95 Author: J. Lohmeyer [SY-95-04]
Desc: Response to Public Review Comment #x on nnn

X3T10/95-244R0   Date: 6/2/95 Author: J. Lohmeyer [SY-95-04]
Desc: Response to Public Review Comment #x on nnn

X3T10/95-245R0   Date: 6/2/95 Author: J. Lohmeyer [SY-95-04]
Desc: Response to Public Review Comment #x on nnn

X3T10/95-246R0   Date: 6/2/95 Author: J. Lohmeyer [SY-95-04]
Desc: Response to Public Review Comment #x on nnn

X3T10/95-247R0   Date: 6/2/95 Author: J. Lohmeyer [SY-95-04]
Desc: Response to Public Review Comment #x on nnn

X3T10/95-248R0   Date: 6/2/95 Author: J. Lohmeyer [SY-95-04]
Desc: Response to Public Review Comment #x on nnn

X3T10/95-249R0   Date: 6/2/95 Author: J. Lohmeyer [SY-95-04]
Desc: Response to Public Review Comment #x on nnn

X3T10/95-250R0   Date: 6/2/95 Author: J. Lohmeyer [SY-95-04]
Desc: Response to Public Review Comment #x on nnn

X3T10/95-251R0   Date: 6/2/95 Author: J. Lohmeyer [SY-95-04]
Desc: Response to Public Review Comment #x on nnn

X3T10/95-252R0   Date: 6/2/95 Author: J. Lohmeyer [SY-95-04]
Desc: Response to Public Review Comment #x on nnn

X3T10/95-253R0   Date: 6/2/95 Author: R. Weber [SY-95-04]
Desc: Proposed REPORT LUNS command

X3T10/95-254R0   Date: 6/2/95 Author: P. McLean [SY-95-04]
Desc: Proposal for ATA+PI document

X3T10/95-255R0   Date: 6/16/95 Author: R. Roberts [SY-95-04]
Desc: Minutes of MMC meeting

X3T10/95-256R0   Date: 6/22/95 Author: Lamers/Milligan [SY-95-04]
Desc: Minutes of ATA Working Group - 6/22-23/95

X3T10/95-257R0   Date: 6/22/95 Author: J. McGrath [SY-95-04]
Desc: Comments on WD Overlap Proposal

X3T10/95-258R0   Date: 6/22/95 Author: D. Worrell [SY-95-04]
Desc: Overlap Features

X3T10/95-259R0   Date: 6/22/95 Author: D. Worrell [SY-95-04]
Desc: ATA Project Schedule

X3T10/95-260R0   Date: 6/26/95 Author: G. Houlder [SY-95-04]
Desc: Inadequacy of Number of Blocks in Mode
Select/Sense
X3T10/95-261R0   Date: 6/26/95 Author: M. Jander [SY-95-04]
Desc: Fast-40 with Low Voltage Differential Drivers

X3T10/95-262R0   Date: 7/8/95 Author: L. Sloan [SY-95-04]
Desc: An Update on Distributed I/O at LLNL

X3T10/95-263R0   Date: 7/10/95 Author: Weber/Lohmeyer [SY-95-04]
Desc: Minutes of the SPI-2 & ESPC Study Group - 07/95

X3T10/95-264R0   Date: 7/10/95 Author: Weber/Lohmeyer [SY-95-04]
Desc: Minutes of SCSI Working Group - 07/95

X3T10/95-265R0   Date: 7/10/95 Author: Weber/Lohmeyer [SY-95-04]
Desc: Minutes of X3T10 Plenary #10

X3T10/95-266R0   Date: 7/10/95 Author: B. Ham [SY-95-04]
Desc: Low Voltage Low Power Differential Interface

X3T10/95-267R0   Date: 7/10/95 Author: B. Ham [SY-95-04]
Desc: SPI-2 Framework

X3T10/95-268R0   Date: 7/10/95 Author: EIA/TIA-644 [SY-95-04]
Desc: Electrical Characteristics of LVDS Signalling

X3T10/95-269R0   Date: 7/10/95 Author: P. Aloisi [SY-95-04]
Desc: SCSI SPI-2 Low Voltage Differential

X3T10/95-270R0   Date: 7/10/95 Author: P. Aloisi [SY-95-04]
Desc: Presentation on SPI-2 LVDS Bus

X3T10/95-271R0   Date: 7/10/95 Author: P. Aloisi [SY-95-04]
Desc: Presentation on Skew and Margin for SPI-2

X3T10/95-272R0   Date: 7/13/95 Author: P. Aloisi [SY-95-04]
Desc: Power Distribution

X3T10/95-273R0   Date: 7/13/95 Author: S. Sicola [SY-95-04]
Desc: Presentation on Fault Tolerant Controller

X3T10/95-274R0   Date: 7/13/95 Author: S. Sicola [SY-95-04]
Desc: Minutes of the High Availability Study Group

X3T10/95-275R0   Date: 7/13/95 Author: R. Weber [SY-95-04]
Desc: Minutes of the CAM Working Group - 7/95

X3T10/95-276R0   Date: 7/13/95 Author: P. Walford [SY-95-04]
Desc: Fibre Channel Use of the IEEE Global Identifier

X3T10/95-277R0   Date: 7/13/95 Author: R. Roberts [SY-95-04]
Desc: Response to Public Review #1 comments on SBP

X3T10/95-278R0   Date: 7/13/95 Author: R. Snively [SY-95-04]
Desc: Response to Letter Ballot comments on FCP-2 project proposal

X3T10/95-279R0   Date: 7/13/95 Author: D. Pak [SY-95-04]
Desc: Liaison Report from P1285 - 7/95

X3T10/95-280R0   Date: 7/13/95 Author: J. Lohmeyer [SY-95-04]
Desc: Response to letter ballot commenst on EPI and SPI-2 project proposals

X3T10/95-281R0   Date: 7/13/95 Author: G. Milligan [SY-95-04]
Desc: Response to letter ballot commenst on ATA+PI project proposal

X3T10/95-282R0   Date: 7/13/95 Author: G. Milligan [SY-95-04]
Desc: Response to letter ballot commenst on formation of a new TC for ATA

X3T10/95-283R0   Date: 7/13/95 Author: K. Hallam [SY-95-04]
Desc: Response to letter ballot comments on the SSA project proposals

X3T10/95-284R0   Date: 7/13/95 Author: E. Oetting [SY-95-04]
Desc: Minutes of SMC/SCC Working Group Meeting - 7/95

X3T10/95-285R0   Date: 7/13/95 Author: R. Roberts [SY-95-04]
Desc: Minutes of SBP Working Group Meeting - 7/95

X3T10/95-286R0   Date: 7/13/95 Author: R. Roberts [SY-95-04]
Desc: Minutes of MMC Working Group Meeting - 7/95

X3T10/95-287R0   Date: 7/13/95 Author: P. Entzel [SY-95-04]
Desc: SSC Table 26 Density Codes

X3T10/95-288R0   Date: 7/13/95 Author: P. Entzel [SY-95-04]
Desc: Comments on SSC draft

X3T10/95-289R0   Date: 7/13/95 Author: R. Cummings [SY-95-04]
Desc: X3B5 Media Standards

X3T10/95-290R0   Date: 7/13/95 Author: G. Milligan [SY-95-04]
Desc: Letter regarding Seagate Patent Position

X3T10/95-291R0   Date: 7/13/95 Author: D. Penman [SY-95-04]
Desc: Minutes of Systems Issues Study Group - 7/95

X3T10/95-292R0   Date: 7/13/95 Author: D. Allan [SY-95-04]
Desc: Liaison Report from SFF - 7/95