

Accredited Standards Committee\*  
**X3, Information Technology**

**Doc. No.:** X3T10/95-130r0

**Date:** January 18, 1995

**Project:**

**Ref. Doc.:**

**Reply to:** John Lohmeyer

To: Membership of X3T10

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

Subject: Minutes of X3T10 Plenary Meeting #7  
Lake Tahoe, NV -- January 12, 1995

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**Agenda**

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  - 8.14 SCSI-3 Block Commands (SBC) Status {Project 996-D} [Tewell]
  - 8.15 SCSI-3 Stream Commands (SSC) Status {Project 997-D} [Lappin]
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  - 8.20 SCSI-3 Fast-20 Parallel Interface (Fast-20) {Project 1071-D} [Lamers]
  - 8.21 AT Attachment-3 Interface (ATA-3) Status {Project 2008-D} [Milligan]
  - 8.22 ATA Packet Interface (ATAPI) Status {Project \_\_\_\_-D} []
  - 8.23 XOR Commands Study Group [Houlder]

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**9. Old Business**

- 9.1 X3T10 Procedures [Lamers]
- 9.2 X3T10 Standards Development Policy and Procedure (94-198) [Milligan]
- 9.3 Clarification of international program fee [Allan]

**10. New Business**

- 10.1 Letter Ballot Results and Resolution
  - 10.1.1 Forwarding SCSI-3 Fast-20 to X3 (94-248)
  - 10.1.2 Forwarding GPP to X3 as a Technical Report (94-249)
- 10.2 Immediate Commands (94-244r1) [Lappin]
- 10.3 Exception Handling Selection Mode Page (94-190r4) [Penokie]
- 10.4 Conflict between READ LONG and Read/Write Error Recovery Page [Milligan]
- 10.5 ATA Systems Issues Study Group [Penman]

**11. ISO [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]
- 12.6 AllIM C21 [Podio]

**13. Review of Action Items**

**14. Meeting Schedule**

- 14.1 Authorization of Working Group Meetings

**15. Adjournment**

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**Results of Meeting**

**1. Opening Remarks**

John Lohmeyer, the X3T10 Chair, called the meeting to order at 1:00 p.m., Thursday January 12, 1995. He thanked Steve Finch of Silicon Systems for arranging and hosting the meeting.

John informed the committee that he would be attending the meeting as a non-voting chairperson representing NCR Microelectronics Products Division and not AT&T. His corporate affiliation is changing because NCR Microelectronics is being purchased by Hyundai.

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 with the following changes:

- 10.2 Immediate Commands (94-244r1) [Lappin]
- 10.3 Exception Handling Selection Mode Page (94-190r4) [Penokie]
- 10.4 Conflict between READ LONG and Read/Write Error Recovery Page [Milligan]
- 10.5 ATA Systems Issues Study Group [Penman]

The agenda was approved with the above additions.

## **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 11 people from 3 organizations informing them that their membership was in jeopardy due to non-attendance (see 94-009r5) and that their membership would be terminated if they did not attend this meeting. All organizations were represented at this meeting.

The following organization joined X3T10 at the meeting:

Sequoia Advanced Tech., Inc.

The X3T10 membership is now at 57 organizations up from 56 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 - November Meeting Palm Springs, CA (X3T10/94-227r1)**

The minutes were approved as written.

## **5. Document Distribution**

The 1995 mailing subscription fees have increased substantially (\$410 for USA residents) because the mailing size has increased substantially. Members who have any problems with their mailing subscription should deal directly with Katrina Gray or Dan Arnold at (202) 626-5741.

Larry Lamers requested that all documents for the next mailing be in his hands by noon on Thursday January 28, 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 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.

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 your-email-address' in the message body. To subscribe to the SCSI Reflector, send an electronic message to: scsi-request@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.

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.

## 7. Review of Old Action Items

- 43) John Lohmeyer will write a letter to Ricoh warning of the probable termination of the SCSI-3 Graphics Commands project. *Overcome by events.*
- 44) Larry Lamers will edit the ATAPI project proposal as revised by the ATA working group. *Complete.*
- 45) John Lohmeyer will forward the ATAPI project proposal to X3 for further processing. *Complete.*
- 46) Larry Lamers will generate a properly formatted Logging Operations TIB. *Complete.*
- 47) John Lohmeyer will forward the Logging Operations TIB to X3 for further processing. *Complete.*
- 48) Ted Lappin will update the Sequential Access Partitions TIB based on the accepted comments. *Complete.*
- 49) John Lohmeyer will forward a properly formatted Sequential Access Partitions TIB to X3 for further processing. *Complete.*
- 50) John Lohmeyer will forward the revised SSA to SCSI-2 Mapping (94-196r1) project proposal to X3 for further processing. *Complete.*
- 51) John Lohmeyer will help Gene Milligan build an email mailing list for the policies and procedures discussion. *Complete.*
- 52) Larry Lamers will prepare SPI revision 15. *Complete.*
- 53) John Lohmeyer will forward SPI revision 15 to X3 for further processing. *Complete.*
- 54) Gene Milligan will report all CAM editorial problems to Bill Dallas. *Complete.*
- 55) Bill Dallas will correct the editorial problems in CAM revision 11, producing revision 12. *Complete.*
- 56) John Lohmeyer will forward CAM revision 12 to X3 for further processing. *Complete.*
- 57) Larry Lamers will revise Fast-20 to strike the second paragraph of 6.1.1. *Complete.*
- 58) Larry Lamers will issue a letter ballot for Fast-20. *Complete.*
- 59) John Lohmeyer will send Dal's international fees letter to Jean-Paul Emard. *Complete.*
- 60) Larry Lamers will generate a properly formatted Sequential Access Partitions TIB. *Complete.*
- 61) Larry Lamers will issue a letter ballot for GPP. *Complete.*
- 62) Larry Lamers will generate the SCSI-2 responses document for distribution to ISO via the IR. *Carryover*
- 63) Larry Lamers will prepare a final ISO version of SCSI-2. *Carryover*
- 64) Gene Milligan will double check the ISO status of all forwarded dpANS documents and to generate new ISO work items for any lacking an approved ISO project, with the exception of ATA. *Carryover*
- 65) John will contact Fernando Podio regarding the status of the C21 project. *Complete.*
- 66) John Lohmeyer will write a letter commenting on the SD-2 requesting that abstentions be permitted on technical votes at TCs and Tgs. *Complete.*

## **8. Subgroup and/or Project Status Reports**

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

John Lohmeyer said that the current X3T10 project status summary was included on the backs of the meeting agendas. John also noted that CBEMA had changed their name to Information Technology Industry Council (ITI). Their email address is now: x3sec@itic.nw.dc.us.

### **8.2 X3T10.1 Task Group Report**

The X3T10.1 Plenary met on January 10, 1995. No other meetings were held since November 1994 plenary. 22 Principle members and 14 other members attend the meeting.

The SSA-PH Draft, (989D-r3) is in preliminary review. Revision 3 was distributed at the meeting. Revision 3 contains major (6 months worth of) changes from revision 2. The meeting approved changes in driver spectrum content values, (electrical I/F). Major editorial work is still needed in the glossary, Intro, unitized connector appendix; style changes throughout; and clean up connector drawings. Action items have been assigned. There will be an editors meeting on Jan17-19,1995 - Austin, Texas. The goal is mailing of revision 4 by the first week of February.

The letter ballot on SSA-SCSI2 (13:0:0) was withdrawn due to many procedural and technical problems. The editor's meeting will review this document, if time permits.

The X3T10.1 plenary meeting approved motion to password protect electronic versions of draft documents with password provided on page 2 in an editor's note, (12:0:1). The password is intended to avoid inadvertent modifications, not a security feature.

Chair will revisit SD-4 project dates as part of annual report.

A working group meeting was authorized for March 6, 1995 in Newport Beach, CA

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

Bill Dallas and John Lohmeyer reported that 792-D is in public review. The review will end on April 4, 1995.

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

The ATA-2 working group completed its review of the proposed ATA-2 standard held at Western Digital on the December 1, 1994. The result was the generation of ATA-2 revision 2j. At the ATA working group held on Wednesday and Thursday of this week resulted in one change to the 2j document, Annex F of the document was deleted. This Annex dealt with typical device addressing on a PC compatible systems. While the need for this information was felt to be important, it was deemed not to be a requirement for the ATA-2 standard and that attempting to resolve the issues involved would result in delaying the forwarding of ATA-2. Revision 2k was created and will be in the next X3T10 mailing.

The ATA working group approved a motion to request that an X3T10 letter ballot be issued to ask the membership to approve forwarding the ATA-2 working draft Rev 2k to X3 for further processing (first public review). John Lohmeyer agreed to issue the letter ballot.

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

John Lohmeyer reported that 855-D is in second public review. The review will end on April 4, 1995.

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

Duncan Penman reported that SIP revision 4a is ready. It will be in the next mailing. Duncan has a few hardcopies for those who need them immediately. John will put electronic copies on the BBS and FTP site. Duncan asked working group time be allocated to reviewing SIP.

#### **8.7 Directly-Addressable Device Interface (DADI) Status {Project 964-D} [open]**

Gene Milligan moved that X3T10 process a withdrawal request for Project 964-D (Directly-Addressable Device Interface). Bob Snively seconded the motion. Gene Milligan noted that a near-future 1394 trade association meeting agenda includes a presentation from Martin Freeman regarding P1285.

Bob Snively described the original concept, which was to provide a memory-like interface to disk drives.

John Lohmeyer conducted a meeting vote whose results were: 34:0:0:23. John accepted an action item to write a letter to X3 requesting that Project 964-D be withdrawn.

#### **8.8 SCSI Common Access Method -2 (CAM-2) Status {Project 990-D} [Dallas]**

Bill Dallas reported that the CAM working group met and came to an agreement about formatting the CCB for SCSI-3, which requires larger field sizes in several places. The general working group agreed that the document title should be changed from CAM-2 to CAM-3 to avoid confusion. There was no objection from the plenary on changing the title.

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

The GPP forwarding letter ballot passed 51:0:0:5. All comments on the Gene Milligan (Seagate) yes ballot were resolved by the working group. Paul Aloisi moved that the revised GPP be accepted as resolving the letter ballot comments and be substituted for the letter ballot version for forwarding to X3 for further processing (first public review). Erich Oetting seconded the motion. The motion passed 35:0:0:22. Gary Stephens took an action item to prepare a revised GPP including the comments resolution. John Lohmeyer took an action item to forward the revised GPP to X3.

#### **8.10 SCSI-3 Serial Bus Protocol (SBP) Status {Project 992-D} [Marazas]**

Ron Roberts reported that 992-D is in public review. The review will end on March 21, 1995.

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

Bob Snively reported that 993-D is in public review. The review will end on March 21, 1995.

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

Charles Monia reported that 994-D is in public review. The review will end on March 21, 1995.

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

Ralph reported that SPC revision 4 was in the previous mailing. George Penokie provided detailed comments in 95-106r0. Those comments were reviewed the working group meeting. Of the 21 comments, 15 were accepted. Comment 3 was accepted provided Ralph will send the revised wording to George and Bob Snively for approval. Comments 1, 7, 8, 9, and 13 were rejected because they conflict with previously approved documents. George was satisfied with the reasons for rejecting comment 8. However, George maintained that the MOVE MEDIUM, READ ELEMENT STATUS, and processor commands should not be in the SPC.

There had been some complaints about missing entries in the Vendor-ID list in Annex E. John Lohmeyer and Ralph are revising their procedures to avoid future problems. Charles Monia informed Ralph that the parameter rounding material was removed from the SAM last fall with the intent that it will be placed in the SPC. Ralph was unaware of this change.

Ralph promised to generate SPC revision 5 for the next mailing. However, he noted that his workload may make finishing on time difficult.

Based on a comment from Rick Tewell, the committee discussed the presence of references to CCS in the SPC. John suggested that the topic be remanded to the working group.

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

Rick Tewell reported that the revision 0 of the SBC was in the last mailing. George Penokie provided Rick with a list of approved documents that affect the SBC. The approved documents will be included in the next revision of the SBC.

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

Ted Lappin reported that the working group on SSC met earlier that day. SSC revision 2 will be in the next mailing. Ted will be providing several proposals for the next mailing. He mentioned that many of the density codes in the current table are not fully defined. He suggested that such density codes may be changed to reserved if fuller definition information cannot be obtained. Erich Oetting will be writing a proposal for writing tapes without error recovery. There also will be proposals on reading in flaky areas of the tape and ASCs for cleaning tapes.

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

Rick Tewell has volunteered to act as Project Editor on the SGC project. John Lohmeyer expressed his appreciation and asked the committee to support Rick. Rick reported that revision 0 (a rehash of the SCSI-2 graphics commands) will be ready for the mailing. Rick will be contacting IT8 for information that affects the SGC.

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

Erich reported on conceptual discussions on medium changer improvements in the working group meeting. He reported that no action was taken. Ralph Weber prepare a written proposal regarding elimination of conflicts in operation codes for the MOVE MEDIUM and READ ELEMENT STATUS. That proposal will be in the next mailing.

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

George Penokie moved that SCC revision 4 be accepted as resolving the letter ballot comments and replacing revision 3 for public review. Gene Milligan seconded the motion. The motion passed 34:0:23.

John Lohmeyer took an action item to forward SCC revision 4 to X3 for further processing toward public review.

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

Ron Roberts reported that the MMC working group met earlier this week. The working group received a copy of a Sony proposal for CD-ROM commands. That proposal was not reviewed because Sony was unable to attend the working group meeting due to weather problems. Ron requested authorization for an MMC working group meeting in Santa Clara on February 2nd. Western Digital is creating a reflector for MMC issues. The reflector address will be mmc@dt.wd.com. Reflector sign-up messages should be sent to majordomo@dt.wd.com with the line 'subscribe mmc' in the message body.

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

The letter ballot passed 50:2:0:4. The negative votes came from IBM and Gene Milligan (Seagate). Larry reported that all the comments have been resolved. Larry Lamers reviewed the letter ballot comments and responses. The comments and responses are covered in the working group meeting minutes, 95-129.

Larry promised to make a new revision of Fast-20 as soon as possible. Larry Lamers moved that X3T10 accept the resolution of the Fast-20 letter ballot comments, as recommended by the working group. Gene Milligan seconded the motion. The motion passed 36:0:21.

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

Gene Milligan reported on the work of the ATA-3 ad hoc group meeting. Early proponents of the ATAPI expressed opposition to X3T10 working on ATAPI prior to "final review" by SFF. Consequently, the ad hoc was not able to generate the ATAPI plan and schedule as yet. A presentation was given on ATASPI which has been offered to the industry for an ATA industry API.

The ad hoc agreed on scope relative to command overlap and queuing. The ad hoc requested that the ATA-3 project editor include the security mode, check power mode, device 1 only description, and DMA Identify command in the initial draft. The ad hoc extended the deadline to the February 15 meeting for PFA, revision reporting, host information, and dynamic power selection. Gene reported that the ATA-3 project is on schedule.

Gene Milligan moved that X3T10 accept the ATA ad hoc's recommendation to include: (a) "weak command overlap"; (b) "strong command overlap"; and (c) "command queuing" in the ATA-3's scope and to establish high priority on (a) with diminishing priority on (b) to (c) -- ultimately dropping (b) and/or (c) to ATA-4, if it (or they) delays accepting the definition beyond February 16, 1995, from ATA. Richard Kalish seconded the motion. The motion passed unanimously.

John Lohmeyer said that his reading of the ATA-3 project proposal suggests that all the concepts in the above motion can be interpreted as being part of the project and asked if there were any objections to his interpretation. There were no objections. Thus, no revision of the project proposal was undertaken.

**8.22 ATA Packet Interface (ATAPI) Status {Project \_\_\_\_-D} []**

The ATAPI project proposal was on the OMC agenda for this week. Approval of the project proposal by X3 letter ballot is anticipated before the next X3T10 meeting.



**8.23 XOR Commands Study Group [Houlder]**

Reporting for Gerry Houlder, Gene Milligan said that this week's XOR meeting had higher attendance, with a lot of people contributing to the discussions. This indicates a higher level of interest in this topic. Complete minutes will be in document 95-114.

**9. Old Business**

**9.1 X3T10 Procedures [Lamers]**

Since Larry has not yet had time to prepare draft procedures, John said he would remove this agenda item until we have a proposal.

**9.2 X3T10 Standards Development Policy and Procedure (94-198) [Milligan]**

Gene Milligan led a discussion of 94-198r3. He reported on the history of how the document was developed. Lengthy electronic mail discussions, one working group meeting, one study group meeting, and a review with X3T10 Chair Lohmeyer all were performed to create the document revision presented to this meeting.

Gene Milligan moved that X3T10 accept the revised document as an acceptable response to the letter ballot comments. Ron Roberts seconded the motion. Gene Milligan moved that consideration of the above motion be deferred until March 9th. Ron Roberts seconded the motion. The motion to defer consideration passed unanimously.

**9.3 Clarification of international program fee [Allan]**

Dal Allan was absent from this meeting. Therefore, this agenda item was carried over to the March Plenary meeting.

**10. New Business**

**10.1 Letter Ballot Results and Resolution**

John Lohmeyer reported the results of the two letter ballots (see 95-123).

**10.1.1 Forwarding SCSI-3 Fast-20 to X3 (94-248)**

**10.1.2 Forwarding GPP to X3 as a Technical Report (94-249)**

**10.2 Immediate Commands (94-244r1) [Lappin]**

Ted Lappin reported on working group revisions to 94-244r0. The proposal modifies the SPC slightly to allow reporting of progress information on all immediate commands (not just immediate FORMAT commands). There was a brief discussion which revealed a new issue. Since consensus was not immediately forthcoming, the question was remanded to the working group.

### **10.3 Exception Handling Selection Mode Page (94-190r4) [Penokie]**

George Penokie reported that the working group unanimously recommended 94-190r4 be accepted for inclusion in the SPC. George moved that 94-190r4 be accepted for inclusion in the SPC. Bob Snively seconded the motion. The motion passed unanimously.

### **10.4 Conflict between READ LONG and Read/Write Error Recovery Page [Milligan]**

Gene Milligan moved that X3T10 accept the working group's recommendation to rescind document X3T10/94-077 resolution to the READ LONG CORRCT bit and Read/Write Recovery Page and to make the following changes to SBC: (1) Add test to READ LONG that states that READ LONG is a command whose definition is independent of the Read/Write Error Recovery Page, but does allow retries; (2) Add text to define that a READ LONG command with CORRCT=0 should result in GOOD status unless data cannot be transferred for some reason other than non-correctable errors.

Jim McGrath seconded the motion. The motion passed 33:0:0:24. Gene took an action item to prepare a written proposal for changing SBC.

### **10.5 ATA Systems Issues Study Group [Penman]**

Duncan Penman reported on a reflector discussion regarding the need for a study group to investigate ATA systems issues (BIOS, software, etc.). The synopsis of the reflector discussion can be found in document 95-133. In the absence of objections, John authorized a study group effort to be lead by Duncan. Currently, there are no plans for study group meetings. The discussion will be conducted via electronic mail. The study group will be called the "System issues study group."

## **11. ISO [Milligan]**

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

### **ISO Report 1/95**

SC 25 Working Group 4 has distributed N626 which is a contribution from Professor, Doctor Oehler on Interfaces of active components to the cabling. Grivna has requested a list of references to convert from EIA to IEC component standards for Fibre Channel. A new ISSN1695 document dated 94/11/30 SD9 Memorandum of Agreement for US TAGs has been distributed.

The enclosed list of ISO documents since the last SC 25 meeting includes nine International Standardized Profiles relating to the X3T12 FDDI work.

The SC 25 Secretary Walter v. Pattay has sent a 94/12/04 letter to Chairman Fujisaki appointing Gene Milligan as the SC 25 to SC 26 Liaison. SC 26 is the ISO group responsible for microcomputer systems.

ISO/IEC is working on a process to publish de facto specifications. Some information has been distributed JTC1N3142 94/12/06 Transposition of Publicly Available Specifications - Management Guide Plan.

Interoperability of implementations (as opposed to standards conformance) is starting to receive ISO attention as noted by JTC1N3325 94/12/06 Req for SWG-CA study of product interoperability. The US contact for Interoperability SWG-CA is the Chair of JTCA Dave Thewlis, of Share Inc. at 71210.76@compuserve.com.

The SC 25 Secretary has decided not to precisely follow the action item to request that the JTC 1 Secretariat, ANSI, reverse their interpretation that the HIPPI and FC new work items failed. Instead he has

decided to, on the basis of the passing CD ballots, submit the HIPPI-FP, LE, SC, & FC-PH DIS documents and resolution of CD comments to JTC 1 for the registration of DIS ballots. The HIPPI-PH is ready for IS publication as soon as an editor's report on DIS ballot comments is received. X3T11 is addressing these items.

A revision of the ISO/IEC procedures is now available as JTC1N3348 94/12/20 Procedures for the Technical work of JTC1 - Third Edition.

JT94-0717 94/12/21 provides a Timeline for JTC1 Strategy for Implementation of Information Technology. The X3T10 IR has requested additional information from the US contact Karen Higginbottom, higginbottom @ cup.hp.com, on both the international and US activity on electronic mechanization.

## **12. Liaison Reports**

### **12.1 X3T11 Liaison Report [Cummings]**

X3T11 met on December 7, 1994 with 90 attendees. One member organization was added (TV/COM), bringing the membership of X3T11 to 54.

It was reported that X3.230-1984, FC-PH, and X3.254-1994, FC-FP, had both completed BSR review, and were with the ANSI editors for pre-publication editing. The requests to withdraw the IPI-2 Tape (X3.176-1990) and IPI-3 Communications (X3.177-1990) standards had also completed BSR review and were being actioned.

The FC-SB (Revision 3.3) and FC-AL (Revision 4.4) drafts have completed OMC compliance reviews and have been assigned X3.271-199x and X3.272-199x respectively. First Public Reviews will commence on both drafts early in 1995.

A new naming convention was approved by a vote of F30-O01-NV23. By this change FC-EP will become FC-PH-2 and subsequent generations of all FC projects will follow this convention.

Four project proposals were forwarded for further processing. They were:

- 1) For an amendment to the HIPPI-SC standard, by a rollcall vote of F38-O00-NV16
- 2) For a Technical Report on HIPPI-Serial, by a rollcall vote of F40-O00-NV14
- 3) For an FC-PH-3 standard, by a rollcall vote of F36-O00-NV18
- 4) For a Technical Report on a 10 bit interface, by a rollcall vote of F36-O00-NV18

Letter Ballots for the Revised IPI-3 Disk and Revised IPI-3 Tape projects for a first Public Review, and for the withdrawal of Project 782-D (HIPPI-IPI3) were not issued in advance of the Plenary as had been expected, but are expected to be issued early in the New Year.

A Letter Ballot for the SBCON Project Proposal was also not issued as authorized in October, due to ongoing debates and changes to the proposal, but a new Letter Ballot on a revised SBCON Project Proposal was authorized for issuance subsequent to the meeting. A request for written arguments for and against adoption of the Proposal to accompany the ballot was accepted.

### **12.2 SFF Industry Group [Allan]**

Jim McGrath reported on the progress in connector design progress this week and urged participation in the SFF meeting tomorrow. Bill Ham reported that the very-high density connector SFF group may produce one or two connector choices that will be forwarded to X3T10 for consideration.

### 12.3 IEEE P1394 [Marazas]

Jerry Marazas provided the following electronic report:

The proposed IEEE Standard 1394, High Performance Serial Bus had successful closure of the IEEE administered ballot on December 22, 1994.

The results are summarized as follows:

144 People in Ballot Pool (an unusually large number)  
133 People eligible to vote upon the ballot

84 Affirmative Votes

6 Negative Votes

10 Abstentions

The 75 per cent criteria was achieved ==> 100 votes / 133 Eligible

The ratio of affirmative votes is 93 per cent ==> 84 Yes / 90 votes.

The IEEE procedures provide for a comments resolution process to be conducted by the given Working Group (P1394 WG in this case). To execute this process I have directed that a 30 day ballot be submitted to the voting members (some 29 people) of the P1394 Working Group. The ballot closes February 6, 95.

The ballot provides:

- <> The P1394 Working Group authorize a Ballot Resolution Committee to act on its behalf for the purpose of executing the IEEE comments resolution procedure.
- <> The Ballot Resolution Committee (BRC) specifically consists of a named slate of persons which are to be approved as a block by the Working Group ballot.
- <> Participation in the BRC meetings is open and not limited to the authorized slate of members.
- <> Notice of BRC meetings is to be posted to reflectors maintained in support of (a) the P1394 Working Group, (b) the P1394 Trade Association, and (c) the X3T10 committee.

The work of the BRC requires that each comment (both positive and negative ballot comments) is to be formally placed in writing (verbatim), and a disposition made indicating acceptance or rejection of the comment. In many instances, the disposition will result in changes to the P1394 draft standard. A written reply is to be sent each comment submitter indicating the disposition.

It is my expectation that comments are sufficiently numerous and sufficiently detailed that the BRC will find it necessary to produce a new draft of the proposed standard. Such new draft, upon its completion by the BRC, will be given to the IEEE so that it may submit the document to the P1394 ballot pool for a vote as to acceptability of comments resolution.

In anticipation of an affirmative vote by the P1394 Working Group as to authorization of the BRC, I have posted announcement of the first meeting of that committee. The first BRC meeting will be hosted by me in Boca Raton at the IBM PC Company main site on February 14, 15, and 16, 1995. I expect additional BRC meetings will be necessary. It is my desire to schedule the second BRC meeting to occur during X3T10 week at the March 6-10 series of meetings in Newport Beach, California. Subject to X3T10 approval (as well as host approval) I wish the March meeting of the BRC to occur Monday, Tuesday, Wednesday, of X3T10 week. The Monday start time would be 1 PM. The Tuesday and Wednesday start times would be at 9 AM.

### 12.4 IEEE P1285 Status [Pak]

Dennis Pak provided as written report in document 95-128r0. Key elements of the report are as follows. The collaboration with P1596 SCI is finishing up. Another co-located meeting will be held on January 12. The beta

level data structures have been updated to allow for both 32-bit and 64-bit operation. A new P1285 document update is imminent. The beta level and gamma level portions of the document have already been updated.

New features include:

- Mover capability: the reporter
- Setup command for 64-bit addressing
- Event handling support
- Scatter/Gather for beta level
- Command pre-fetching support for the beta level

Future meetings are scheduled as follows:

January 12 Co-located Meeting with IEEE 1596, Santa Clara University,  
Bannon Engineering Building

Meetings are usually scheduled from 2:00-5:00 PM. Comments and/or questions should be forwarded to Martin Freeman, IEEE P1285 Chair, @(415)354-0329. His e-mail address is martin@savant.PRPA.Philips.COM.

### **12.5 PCMCIA Report [McLean]**

Pete McLean reported that PCMCIA has publicly announced the next revision of their standard. Several loose ends were discovered in a recent review of that revision. Pete anticipated final adoption at a meeting near the end of January. Pete described a shrouded connector that will allow higher bus speeds. The connector appears headed for inclusion in PCMCIA.

### **12.6 AIIM C21 [Podio]**

John Lohmeyer noted that Fernando Podio had attended the SCSI Working Group meeting on Wednesday and that there had been unanimous consent on resolving the remaining issues involving how to document the log and mode pages (see 95-129 for details).

## **13. Review of Action Items**

- 62) Larry Lamers will generate the SCSI-2 responses document for distribution to ISO via the IR.
- 63) Larry Lamers will prepare a final ISO version of SCSI-2.
- 64) Gene Milligan will double check the ISO status of all forwarded dpANS documents and to generate new ISO work items for any lacking an approved ISO project, with the exception of ATA.
- 67) John Lohmeyer will obtain an electronic copy of the new X3 SD-2 and post it on the SCSI BBS and on the FTP site.
- 68) Larry Lamers will conduct a letter ballot regarding the forwarding ATA-2 to X3 for processing toward first public review.
- 69) John Lohmeyer will send a letter to X3 requesting withdrawal of Project 964-D (Directly-Addressable Device Interface).
- 70) Gary Stephens will prepare a revised GPP for forwarding.
- 71) John Lohmeyer will forward the revised GPP to X3 for further processing.
- 72) John Lohmeyer will forward SCC revision 4 to X3 for further processing toward public review.
- 73) Gene Milligan will prepare a written proposal for changing SBC based on the motion approved under agenda item 10.4.

## **14. Meeting Schedule**

The next plenary meeting of X3T10 will be March 9, 1995, in Newport Beach, CA, at the Hyatt Hotel (714-729-1234), hosted by QLogic. The meeting will begin at 1:00 pm on Thursday.

The meeting list for the next plenary week is:

March '95 Meeting Map

<b>Sunday 3/5</b>	9	10	11	12	1	2	3	4	5	6	7	8	
						+=====+							
						Editor's meeting						(15)	
						+=====+							
<b>Monday 3/6</b>	9	10	11	12	1	2	3	4	5	6	7	8	
						+=====+							
						SPI futures working group						(30)	
						+=====+							
						X3T10.1 working group						(30)	
						+=====+							
						XOR study grp						(20)	
						+-----+-----+							
						P1394						(20)	
						+-----+-----+							
<b>Tuesday 3/7</b>	9	10	11	12	1	2	3	4	5	6	7	8	
						+=====+							
						X3T10.1						(40)	
						+=====+							
						SCSI-3 WG						(40)	
						+=====+							
						CAM-2 WG						(10)	
						+-----+-----+							
						P1394						(20)	
						+-----+-----+							
<b>Wednesday 3/8</b>	9	10	11	12	1	2	3	4	5	6	7	8	9
						+=====+							
						SCSI-3 WG						(45)	
						+=====+							
						System Issue		MMC WG		ATAPI WG			(20)
						+-----+-----+							
						SFF Form Factor WG						(20)	
						+-----+-----+							
						P1394						(20)	
						+-----+-----+							
						SSA UIG						(30)	
						+-----+-----+							
<b>Thursday 3/9</b>	9	10	11	12	1	2	3	4	5	6	7	8	9
						+=====+							
						ATA-3 WG		X3T10 Plenary					(40/80)
						+=====+							
						SSC/SMC WG						(10)	
						+=====+							
<b>Friday 3/10</b>	8	9	10	11	12								
						+-----+-----+							
						SFF						(40)	
						+-----+-----+							

Meetings marked with == are X3T10-authorized meetings.

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

#### Meeting Map Abbreviation Key:

ATA:	AT Attachment (a. k. a. IDE)
ATAPI:	ATA Packet Interface
CAM:	Common Access Method
EL:	Electrical
Fast-20:	Synchronous Data Transfer at 20 Megatransfers/second
I/F:	Interface
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
SCC:	SCSI-3 Controller Commands (RAID)
SCSI:	Small Computer System Interface
SFF:	Small Form Factor 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)
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)
XOR:	Exclusive OR

#### Several other X3T10 events are also planned:

Event	Day/Date	Time	Location/contact
-----	-----	-----	-----
MMC working group	Thu/02-02	9:30	Santa Clara, Apple
MMC working group	Fri/02-03	9:30	Santa Clara, Apple
ATA-3 working group	Thu/01-26	9:30	Milipatis, Quantum
ATA-3 working group	Wed/02-15	9:30	Milipatis, Quantum
ATA-3 working group	Thu/02-16	9:30	Milipatis, Quantum
SPI Futures working group	Fri/02-17	9:30	Milipatis, Quantum

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

Activity	Contact	Telephone/Email
ATA-2	Steve Finch	(714) 573-6808 5723283@mcimail.com
ATA-3 & ATAPI	Gene Milligan	(405) 324-3070 Gene_Milligan@notes.seagate.com
CAM	Bill Dallas	(603) 881-2508 dallas@wasted.enet.dec.com
SAM	Charles Monia	(508) 841-6757 monia@starch.enet.dec.com
SPI, SCSI-2, Fast-20	Larry Lamers	(408) 432-4776 lamers@aol.com
SIP	Duncan Penman	(408) 894-0800 x35 penman@netcom.com
SSA-PH	Edward Gardner	(719) 548-2247 gardner@acm.org
SSP	John Scheible	(512) 823-8208 Scheible@vnet.ibm.com
FCP	Robert Snively	(415) 336-5332 Bob.Snively@eng.sun.com
GPP	Gary Stephens	(602) 321-1725 6363897@mcimail.com
SBP	Ron Roberts	(408) 432-4322 rkroberts@aol.com
SPC	Ralph Weber	(603) 881-1497 roweber@acm.org
SBC and SGC	Thomas Tewell	(415) 459-7978 thomas.tewell@seqadvtech.com
SSC	Edward Lappin	(303) 447-7718 tedl@exabyte.com
SMC	Erich Oetting	(303) 673-2178 Erich_Oetting@Stortek.com
MMC	Ron Roberts	(916) 677-5714 rkroberts@aol.com
SCC	George Penokie	(507) 253-5208 gop@rchvmp3.vnet.ibm.com
Other Activities	John Lohmeyer	(719) 573-3362 john.lohmeyer@hmpd.com

John presented a foil of a letter from Joe Molina of the RAB complaining about the X3T10 meeting locations for the November '94 and January '95 meetings. This engendered a lengthy discussion on site selection criteria. Of course, each person had his/her favorite criteria, which often conflicted with other's criteria. Some key points made were: a) locations should have convenient air transportation; b) locations should be situated so that component vendors can combine trips with customer visits; c) locations should be selected that have reasonable hotel rates; d) risky travel locations should be avoided (e.g., mountains in winter, Florida in hurricane season); e) avoid repeated locations in the same geographic area; f) restaurants and other business services should be convenient to the hotel; etc.

It was noted that Palm Springs (and to a lesser degree, Lake Tahoe) actually met many of the above criteria. Few people could remember getting better hotel rooms at any rate. Those who actually attended the meetings were generally pleased with the location. However, it was suggested that resort locations should be restricted to no more than once per year to balance the other criteria.

The long-term X3T10 meeting week schedule is:



Date	Location	Host/Comments
Mar 5- 10, 1995	Newport Beach, CA	QLogic
May 7- 12, 1995	Harrisburg, PA	AMP
Jul 9- 14, 1995	Colorado Springs, CO	NCR Microelectronics
Sep 10- 15, 1995	Manchester, NH	Digital
Nov 5- 10, 1995	Southern CA	Western Digital
Jan 8- 12, 1996	*Dallas, TX	*Quantum
Mar 11- 15, 1996	*San Jose, CA	*Quantum
May 6- 10, 1996		
Jul 15- 19, 1996		
Sep 9- 13, 1996	*Northeast USA	*Digital
Nov 4- 8, 1996	Southern CA	Western Digital

\* tentative

Volunteers to host 1996 meetings should contact John Lohmeyer.

#### 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 hocs should strive to achieve consensus prior to bringing issues to X3T10.

Jim McGrath moved and Erich Oetting seconded that X3T10 authorize the X3T10-related meetings and events in the list above. The motion passed unanimously.

#### 15. Adjournment

The meeting was adjourned at 5:35 p.m. on Thursday January 12, 1995.

## Meeting Attenders -- Enclosure (1)

Name	S	Organization	Electronic Mail Address
Mr. Rick Heidick	A	3M Company	usmmm54s@ibmmail.com
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Mr. David Wang	P	Advanced Micro Devices	david.wang@amd.com
Mr. Ron Apt	0	Advanced Micro Devices	
Mr. Edward Fong	P	Amdahl Corp.	esf10@amail.amdahl.com
Mr. Carl Booth	0	Amphenol/Spectra-Strip	
Mr. Ron Roberts	A	Apple Computer	rkr Roberts@aol.com
Mr. Dennis R. Haynes	P	Burr-Brown Corp.	haynes_dennis@bbrown.com
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Mr. Thomas J. Kulesza	A	Honda Connectors	
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Mr. Robert Bellino	P	Madison Cable Corp.	
Mr. Pete McLean	P	Maxtor Corp.	pete_mclean@maxtor.com
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Mr. Joe Dambach	P	Molex Inc.	
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## 62 People Present

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

Jan 17, 1995 - X3T10 Membership - Enclosure (2)

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Jan 17, 1995 - X3T10 Document Register - Enclosure (3)

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

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

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

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

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

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

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

X3T10/95-107R0      Date: 1/16/95    Author: G. Penokie [SY-95-01]  
Desc: SAM Public Review Comments  
Res:

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

X3T10/95-109R0      Date: 1/16/95    Author: T. Asami [SY-95-01]  
Desc: Fast-20 Definition  
Res:

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

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

X3T10/95-112R0      Date: 1/16/95    Author: L. Sloan [SY-95-01]  
Desc: Presentation on 3rd Party Operations  
Res:

X3T10/95-113R0      Date: 1/16/95    Author: L. Sloan [SY-95-01]  
Desc: Technical details on 3rd Party Proposal  
Res:

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

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

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

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

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

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

X3T10/95-120R0      Date: 1/16/95    Author: G. Milligan [SY-95-01]  
Desc: Minutes of ATA Working Group - Jan '95  
Res:

Minutes of X3T10 Plenary Meeting #7 in Lake Tahoe, NV

X3T10/95-130r0

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

X3T10/95-122R0           Date: 1/16/95   Author: J. Chen [SY-95-01]  
Desc: ATA 22MB/sec Timing Proposal  
Res:

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

X3T10/95-124R0           Date: 1/16/95   Author: G. Penokie [SY-95-01]  
Desc: Public Review Comments on FCP  
Res:

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

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

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

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

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

X3T10/95-130R0           Date: 1/16/95   Author: R. Weber [SY-95-01]  
Desc: Minutes of X3T10 Meeting #6 - Jan '95  
Res:

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

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

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

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

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