

Accredited Standards Committee\*  
**X3, Information Processing Systems**

**Doc. No.:** X3T10/94-227r0  
**Date:** November 10, 1994  
**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 #6  
Palm Springs, CA -- November 10, 1994

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**Agenda**

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  - 8.20 Multimedia Command Set (MMC) Status {Project 1048-D} [Harris]
  - 8.21 SCSI-3 Fast-20 Parallel Interface (Fast-20) {Project 1071-D}

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- [Lamers]
- 8.22 AT Attachment-3 Interface (ATA-3) Status {Project \_\_\_\_-D}  
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- 12. Liaison Reports
  - 12.1 X3T11 Liaison Report [Cummings]
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  - 12.3 IEEE P1394 [Marazas]
  - 12.4 IT8 [Lohmeyer]
  - 12.5 IEEE P1285 Status [Pak]
  - 12.6 PCMCIA Report [McLean]
  - 12.7 AIIM 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 November 10, 1994. He thanked Jeff Stai of Western Digital for arranging and hosting the meeting.

Since the last meeting, Larry Lamers was appointed Vice Chair of X3T10 and Gene Milligan was appointed International Representative. John Schieble was appointed Chair of X3T10.1. X3T10.1 still needs a Vice Chair. John encouraged any interested persons to apply for the Vice Chair position in X3T10.1.

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:

- 10.5 Authorization of Fast-20 Letter Ballot
- 10.6 Clarification of IPI (94-) [Alan]

Item 10.4 (Response to ISO Comments on SCSI-2 [Lamers]) was moved to 11.1.

## **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. This year, the International Program fee (\$300) will be billed separately directly from ANSI.

The Chair said he had sent letters to 16 people from 9 organizations informing them that their membership was in jeopardy due to non-attendance (see 94-009r3) and that their membership would be terminated if they did not attend this meeting. All organizations were represented except:

Foxconn;  
Harbor Electronics;  
Panasonic Industrial Co.

Principal members from these organizations were changed to observers and the alternates were terminated.

The following organizations joined X3T10 at the meeting:

Trimm Technologies

The X3T10 membership is now at 56 organizations down from 58 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 - September Meeting Houston, TX (X3T10/94-192r2)**

The minutes were approved as written.

## **5. Document Distribution**

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 must be sent so as to be received by noon on Wednesday, November 23, 1994. 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.

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.

Gene Milligan said that patents have been identified for the secure mode. There is one patent from IBM and one from Maxtor. Letters regarding the patents have been in the X3T10 mailing. The IBM letter is document 94-xxx. The Maxtor letter is 94-xxx.

## 7. Review of Old Action Items

- 26) Larry Lamers will issue a letter ballot on the SSA SCSI-2 Protocol Technical Report X3T10/94-196r0. **Complete.**
- 27) John Lohmeyer will authorize Jean Paul to pay the editing invoice from Sandy. **Complete.**
- 28) John Lohmeyer will authorize Jean Paul to pay the editing invoice from Kelly. **Complete.**
- 29) Larry Lamers will create a first working draft of the Fast-20 dpANS. **Complete.**
- 30) Larry Lamers will revise the SPI based on comments received to date. **Complete.**
- 31) Larry Lamers will issue a letter ballot on forwarding SCC revision 3 to public review. **Complete.**
- 32) George Penokie will revise the Log Sense TIB based on comments from Gene Milligan. **Complete.**
- 33) Larry Lamers will issue a letter ballot on forwarding the Log Sense TIB (as revised) to public review. **Complete.**
- 34) Larry Lamers will issue a letter ballot on forwarding the Sequential Access TIB to public review. **Complete.**
- 35) Charles Monia will revise SAM as instructed producing SAM revision 16. **Complete.**
- 36) John Lohmeyer will forward SAM revision 16 to X3 for further processing toward first public review. **Complete.**
- 37) Bob Snively will revised FCP based on the approved proposal from Gene Milligan, producing FCP revision 10. **Complete.**
- 38) John Lohmeyer will forward FCP revision 10 to X3 for further processing toward first public review. **Complete.**
- 39) Ron Roberts will revise SBP based on comments from Giles Frazier, producing SBP revision 19. **Complete.**
- 40) John Lohmeyer will forward SBP revision 19 to X3 for further processing toward first public review. **Complete.**
- 41) Larry Lamers will issue a letter ballot for approval of Gene Milligan's procedures proposal. **Complete.**
- 42) John Lohmeyer will forward the ATA-3 project proposal to X3 for further

processing. **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 announced that the rules of X3 (document SD-2) is out for public review. The new rules will expedite handling of documents sent to X3 for processing. The compliance review will be overlapped with the first public review. The first public review will be reduced to 2 months (from 4 months). Also, an X3 letter ballot will be overlapped with the second public review. All the tasks described as overlapped above currently are done sequentially.

John announced that the project proposal making GPP a technical report has been approved by X3. The new project number is 991-DT. ESDI is at BSR for reaffirmation.

John said that he still is trying to learn the status of the ATA-3 project proposal, FCP, SBP, and SAM dpANS documents. He hopes to have status before this meeting is adjourned.

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

Ken Hallan reported that the SSA task group has met several times since September. Meetings have covered the SSA-PH, SSA electrical, and SSA to SCSI-2 mapping. Ken noted that the SSA-PH is very close to being ready. Ken said that the SSA mapping for SCSI-3 is not receiving much attention. Everybody is more interested in the SSA to SCSI-2 mapping. The following actions have been taken.

Adopted recommendations of October/November working groups for SSA-PH and SSA-SCSI-2 (unanimous votes). Reviewed electrical specifications drafted by the working groups in October and November including, comprehensive specifications on drivers/receivers, new benchmark for electrical interface specifications, and completed work except for minor editorial items.

X3T10.1 approved incorporation of electrical specification into next revision of 989-D (11:0); approved Host ID proposal, (8:2), changes physical and protocol descriptions, 989-D, 1051-D and 94-060 (this allows Target to establish alias for path description, used in some messages, and saves some table lookup time); approved accumulated error reporting proposal, (11:0) (this provides a way to report recovered error statistics); approved simplified procedure for reporting ports in Normal Mode, (7:2); approved addition of option block description, (unitized connector) to 989-D (10:0); approved response to letter ballot comments for SSA-SCSI-2 project (11:0).

The December mailing will contain nNew revisions of all working drafts and a letter ballot to forward 989-D.

### **8.3 AT Attachment (ATA) Status {Project 791-D} [Lamers]**

AT Attachment has been published by ANSI as X3.221-1994. Call 212-642-4900 for ordering information.

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

Bill Dallas reported that the working group unanimously approved forwarding CAM to second public review.

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

The review of the document is continuing. All sections except 9 have been reviewed. Section 8 has undergone significant changes. A meeting is scheduled for December 1 and 2 in Irvine, CA. The goal is to take a forwarding vote at the January 1995 Plenary meeting.

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

Larry Lamers reported that the SPI document is nearly ready to go to second public review.

Larry Lamers moved that an editing invoice for \$675 be accepted for payment. Paul Aloisi seconded the motion. The motion was approved 33:0:23.

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

Duncan Penman reported that he had been unable to get a first revision of SIP ready yet. Duncan said that his goal is the next meeting.

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

John Lohmeyer announced that there still is not editor for DADI. A motion to kill the project is likely at the January meeting.

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

Bill Dallas reported that the CAM working group began studying proposals for CAM-2.

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

The new project designation is 991-DT. Gary announced intentions to have a draft ready for letter ballot very soon.

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

The editors are waiting for SBP to go to public review and for the comments that will be generated by the public review.

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

The editor is waiting for FCP to go to public review and for the comments that will be generated by the public review.

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

The editor is waiting for SAM to go to public review and for the comments that will be generated by the public review. The fact that SAM was forwarded with one unresolved negative may adversely affect the X3 action on public review.

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

Ralph Weber reported that SPC revision 3 was in the September mailing. The document now is complete, containing all known approved documents that apply to the primary commands. Ralph is awaiting the pleasure of X3T10 regarding further processing of the SPC. Ralph noted that between 2 and 4 working documents will modify the SPC, if approved by X3T10. However, that condition should be in effect at nearly every Plenary meeting.

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

John Lohmeyer received a revision 0 copy of the SBC. It will be in the next X3T10 mailing.

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

Ted Lappin reported that a SSC working group discussed several issues of importance to stream devices. Ted has work items to generate specific proposals to improve the SSC. The proposals cover behavior of the TEST UNIT READY command, addition a READ/WRITE REALLY command, handling of new density codes, changes in the progress indicator sense-key specific data, and other matters.

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

John said that this project may be terminated. Gene Milligan asked John to take an action item to send a letter to Ricoh warning of the probable termination of the SCSI-3 Graphics Commands project.

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

Erich Oetting described the results of this morning's combined SSC/SMC working group meeting. The working group recommended changes for the next revision of SMC. Reserve and Release Element command will continue to work as in SCSI-2. This will be integrated into the next revision of SMC.

The Device Capabilities Page will be mandatory in the Attached Changer Model. This page is already mandatory for the Independent Changer Model. The Attached Changer Model is restricted to one Data Transfer Element. Other restrictions on element types in the Attached Changer Model will be removed. Volume Tags may be returned by the Read Element Status command in the Attached Changer Model.

The working group also discussed possible enhancements for a future revision of SMC. (Any ideas are welcome on how to do these): Find a way to allow mixed media types or densities in a media changer device. Find a way to return a global identity for an Import Export Element. This would allow a host to recognize Import Export Elements that pass Media between two changer devices. Find a way to handle groups of elements that move or act together, such as a magazine that imports or exports 6 items at a time.

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

George Penokie announced the detailed results of the SCC letter ballot. As a result of the current status of the SCC document, George announced that SCC regular working group meeting have been discontinued. Working group meetings will be called on an as-needed basis.

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

The working meeting was convened Monday afternoon at 1:30. There were six attendees total. The current document is 2.0 and was distributed for review Rev 2.1. Input from this study group will be placed in the next mailing.

This session was attended by several of the command set and protocol document editors. Got good input to help resolve cross references and how to split command documentation requirements between existing document and SPC. Outstanding question were discussed regarding whether RED, Yellow and Green Book can be cited as normative references since they are proprietary documents.

CDB formats will be updated to show the "SCSI-2 LUN field" as reserved per SCSI-3 requirements. A question arose regarding AUDIO SCAN operation. In particular it was asked if during a SCAN operation, whether a PLAY AUDIO Command could be issued during a SCAN to resume play at normal speed. The consensus was that this behavior is allowed. AUDIO SCAN and STOP/PLAY descriptions will be updated to describe this behavior.

The next meeting will be Monday afternoon Jan 9, of the Plenary work week in Lake Tahoe.

Norm reported that he is resigning as editor of MMC to pursue other duties. Ron Roberts has agreed to assume duties as editor. and will conduct the next working group. Norm will take any input on MMC until that time.

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

Larry Lamers reported that the Fast-20 document is almost ready for a letter ballot. There are a few issues that Paul Aloisi has defined.

#### **8.22 AT Attachment-3 Interface (ATA-3) Status {Project \_\_\_\_-D} [Milligan]**

Gene Milligan reported the ATA-3 ad hoc has held two meetings since September. ###see Gene Milligan for a detailed report###

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

Bob Snively reported that the XOR study group is working on a new mode page that identifies RAID strips on a drive. The study group also worked on XOR error recovery. Bob reported that the system is being made responsible for managing the error recovery.

### **9. Old Business**

#### **9.1 X3T10 Procedures [Lamers]**

Larry Lamers reported that his work on procedures has not made very much progress.

#### **9.2 Resolution of ATAPI Letter Ballot Comments**

Tom Hanon moved that X3T10 delete the statement "The application for the proposed standard does not require compliance with the SCSI-3 Architectural Model (SAM)" from the project proposal (2.2 Scope) for ATAPI and forward the revised project proposal to X3 for further processing in response to the letter ballot comments. Paul Aloisi seconded the motion.

The roll-call vote passed 38:2:0:16. Larry took an action item to edit the revised project proposal. John took an action item to forward the project proposal to X3 for further processing. Details of the roll-call vote are as follows:

Quantum described their no vote as being based on the need for a statement about SAM compliance in the project proposal.

## **10. New Business**

### **10.1 Letter Ballot Results and Resolution**

John Lohmeyer reported the results of five letter ballots.

#### **10.1.1 Forwarding Log Sense TIB to X3 (94-204)**

On 94-204 (Logging Operations TIB), the letter ballot results were 54:0:0:4. There were no comments received on 94-204. Larry took an action item to generate a properly formatted TIB. John took an action item to forward the TIB to X3 for further processing.

#### **10.1.2 Forwarding Sequential-Access TIB to X3 (94-205)**

On 94-205 (Sequential Access Partitions TIB), the letter ballot results were 54:0:0:4. A yes-with-comments ballot was received from Seagate. Ted Lappin led a discussion of the comments from Gene Milligan (Seagate). Gene Milligan moved that X3T10 accept all the Seagate comments except number 6 and assign such action items as are necessary to get the TIB to X3 for further processing. Ted Lappin seconded the motion. The motion passed 38:0:18.

Ted Lappin took an action item to update the TIB based on the accepted comments. John took an action item to properly format and forward the TIB to X3 for further processing.

#### **10.1.3 Forwarding SCC to First Public Review (94-206)**

On 94-206 (SCC forwarding to 1st public review), the letter ballot results were 53:1:0:4. Yes-with-comments ballots were received from IBM and Unitrode. The no vote came from Seagate. Gene Milligan moved that X3T10 accept the resolution of the comments (as represented in 94-228). Gary Stephens seconded the motion. The motion passed 32:0:24.

Gene Milligan requested that the recorded letter ballot vote on 94-206 be changed from a no to a yes.

#### **10.1.4 Project Proposal on SSA SCSI-2 Mapping Technical Report (94-207)**

On 94-207 (SSA to SCSI-2 Mapping technical report project proposal, 94-196r1), the letter ballot results were 50:2:0:6. The no votes came from Seagate and Unitrode. Ken Halan moved that X3T10 accept the responses to the letter ballot comments (as represented in document in 94-235). Gene Milligan seconded the motion. The motion passed 35:0:21.

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

#### **10.1.5 Approving X3T10 Standards Development Policy and Procedure (94-208)**

On 94-208 (X3T10 Policies and Procedures), the letter ballot results were 45:7:1:5. Yes-with-comments ballots were received from Cirrus Logic, Digital Equipment, and Unitrode. No votes were received from Adaptec, Amdahl, AT&T, FSI, Oak Technology, Storage Technology, and Western Digital.

John reported that the working group attempted to resolve the negative comments but failed to complete the task. John asked that a study group be established to resolve the comments. John and Gene felt that email would be helpful for obtaining a resolution. The Monday afternoon of the next X3T10 meeting week (9 January 1995) will be set aside for face-to-face work on a resolution.

John Lohmeyer asked that anyone interested in participating in the discussion

send mail to Gene Milligan (Gene\_Milligan@notes.seagate.com). Gene will compile the mailing list based on responses that he receives. Discussion turned to ensuring that all those who commented on the letter ballot are automatically on the email list. John took an action item to help Gene build an email mailing list for the policies and procedures discussion.

Gary Stephens moved that the policies and procedures document be forwarded to X3 without changes. John Lohmeyer ruled the motion out of order. John's belief is that X3T10 must work to resolve the negative votes and comments.

Gary Stephens moved to appeal the decision of the chair. Gary's motion to appeal the decision of the chair failed for lack of a second.

### **10.2 Forwarding SPI to Second Public Review**

Gary Stephens moved that SPI revision 15 be forward to X3 for second public review. Gary Watson seconded the motion. Gene Milligan moved that consideration of Gary's motion be deferred until the issue of regulated terminators (Aloisi) has been considered. Dean Wallace seconded the motion to defer consideration. The motion to defer passed 21:5.

Paul Aloisi presented his issue with regulated terminators in the presence of active negation drivers. Paul explained that a source sink regulator is needed to be sure that terminators do not pull lines out of range when negation drivers pull other data lines close to the maximum negative limit.

Paul's specific proposal is to add the following at the end of bullet b) in Section 6.1.1 of the Fast-20 document:

"even when all other signal lines are driven at 4,0 V d.c."

Note: The proposal applies to the Fast-20 document. However, a similar problem exists in SPI. The main difference between Fast-20 and SPI is that active negation is optional in SPI and required in Fast-20.

Gene Milligan moved that consideration of regulated terminators topic be assigned to SPI-2. Skip Jones seconded the regulated terminators motion. The effect of passing Gene's motion to assign consideration would be that the committee will return to forwarding to SPI. The motion passed unanimously.

Consideration returned to the forwarding SPI to second public review. A roll-call vote was taken on the motion to forward. The roll-call vote passed 37:0:0;19. Details of the roll-call vote were as follows:

Larry took an action item to prepare SPI revision 15. John took an action item to forward SPI revision 15 to X3 for further processing.

### **10.3 Forwarding CAM to Second Public Review**

Bill Dallas described the events that caused CAM revision 10 to be corrected to produce revision 11. The changes were described in a message to the SCSI Reflector over two weeks ago. The CAM working group approved forwarding revision 11 unanimously.

Gene Milligan questioned the blank page marked "Forward" and several other editorial problems. Gene took an action item to report all editorial problems to Bill Dallas. Bill Dallas took an action correct the editorial problems. John took an action item to forward CAM revision 12 to X3 for further processing.

Neil Wanamaker moved that CAM revision 11 be forward to second public review. Ralph Weber seconded the motion. A roll-call vote was taken. The roll-call

vote passed 36:0:0:20. Details of the roll-call vote were as follows:

###John, remember to change the Penokie vote###

John took an action item to forward CAM revision 12 to X3 for further processing.

#### **10.4 Authorization of a letter ballot for Fast-20 [Lohmeyer]**

John asked if anyone was opposed to issuing a letter ballot for forwarding Fast-20 to first public review. There were no objections. Larry will revise Fast-20 as noted in 10.7 below. Larry will issue a letter ballot for Fast-20.

#### **10.5 Clarification of IPF (94-) [Alan]**

Dal Alan presented a letter to John asking X3 why committee members are charged international participation fees for each committee that they participate in. This is not the situation in IEEE. Dal basically asked John to forward the letter to X3. John took an action item to send Dal's letter to Jean-Paul Emard.

#### **10.6 Authorization of a letter ballot for GPP [Lohmeyer]**

John asked if anyone was opposed to issuing a letter ballot for forwarding the GPP technical report to first public review. There were no objections. Gary Stephens took an action item to prepare GPP for forwarding. Larry will issue a letter ballot for GPP.

#### **10.7 Fast-20 Termination [Aloisi]**

Paul Aloisi presented a proposal that a statement prohibiting on-device termination be removed from the Fast-20 document. After some discussion, Paul Aloisi moved that the second paragraph in clause 6.1.1 (specifically, "SCSI devices shall not include termination."). Jim McGrath seconded the motion. The motion passed 32:2.

Gene Milligan moved that an informative Annex be added specifying the capacitance budget within a Fast-20 device. Dal Alan seconded the motion. The motion failed unanimously.

Gene Milligan moved that the regulated terminators issue (discussed under 10.2 above) be assigned to the SPI-2 study group. The motion was seconded by Skip Jones. The motion passed unanimously.

#### **10.8 Error Handling for SCSI Controllers (94-024r5) [Hagerman]**

Eric Oetting moved and Ed Gardner seconded that the technical editor be directed to include 94-024r5 into the SPC document. The motion passed 23:0.

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

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

ISO Report  
November 1994

Gene Milligan reported that he has established contact points for determining the equivalent IEC standard for any copper components. If IEC does not have a standard, we can ask them to start a project to create one. In summary, we no have peace between X3T10 and IEC.

Gene Milligan moved that X3T10 request the IR to double check the ISO status of all forwarded dpANS documents and to generate new work items for any lacking an approved ISO project, with the exception of ATA. Larry Lamers seconded the motion. The motion passed 28:0.

Gene Milligan took an action item to double check the ISO status of all forwarded dpANS documents and to generate new work items for any lacking an approved ISO project, with the exception of ATA.

### **11.1 Response to ISO Comments on SCSI-2 [Lamers]**

Larry Lamers reported that SCSI-2 received 102 comments from Japan and 32 comments from Germany. The major problems were use of "American National Standards" and non-international references in the optical media table. We are going to move the diode in the DIFSENSE circuit. This was approved by the working group. ###more detail from Larry.###

Larry Lamers moved that the DIFSENSE and pin 1 changes be accepted for inclusion in the ISO version of SCSI-2 and that the technical editor be authorized to make the editorial changes required by the balance of the comments from Japan and Germany. Dal Alan seconded the motion. The motion passed 34:0.

Larry took an action item to generate the responses document for distribution to ISO via the IR. Larry took an action item to prepare a final ISO version of SCSI-2.

## **12. Liaison Reports**

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

X3T11 met on October 12, 1994 with 69 attenders. Two member organizations were added (Hitachi America and Mitre), and one deleted (Storage Concepts), bringing the membership of X3T11 to 53.

X3 Letter Ballots on X3.230-199x, FC-PH Revision 4.3, and X3.254-199x, FC-FP Revision 2.2 closed with no negatives. In addition, the recommendations to withdraw X3.176 and X3.177 also completed X3 Letter Ballots successfully. The next step for all of these items is therefore BSR review.

The first Public Review for X3.210-DAM:1, the Amendment to the HIPPI Framing Protocol (HIPPI-FP), is expected to start early in November.

By a roll call vote of F37-00-A16, FC-AL Revision 4.4 was forwarded for further processing, including an OMC Compliance Review and a first Public Review. This vote is subsequent to an earlier Letter Ballot, which met the 2/3rds rule but included some comments.

A Project Proposal for a Fibre Channel Avionics Environment (FC-AE) was forwarded for further processing by a vote of F30-000-A23.

X3T11 Letter Ballots were authorized for the Revised IPI-3 Disk and Revised IPI-3 Tape projects. These ballots will be timed to close before the 12/94 X3T11 Plenary. At the same time, a letter ballot to withdraw Project 782-D, HIPPI-I3 will be circulated. The information which was to be included in the standard produced by this project is now part of the Revised IPI-3 Disk document.

Submission of the X3.210 (HIPPI-FP), X3.218 (HIPPI-LE) and X3.222 (HIPPI-SC) published ANSI standards for ISO Fast Track processing was authorized.

A vote to forward a Project Proposal for a standard named SBCON, which is based on IBM's proprietary ESCON channel, failed late in the day for lack of

people in the room. A letter ballot on this Project Proposal has therefore been authorized.

The FC-EP0 Ad Hoc group raised the issue of optimal specifications for shortwave laser variants at speeds greater than 1 gigabaud, and this was discussed in detail. The group has some concern that adequate testing may not be possible within the constraints of the schedule currently planned for FC-EP.

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

The PCI SIG which had also been using the name of SFF agreed to change its name to Small PCI.

A dimension difference between SFF-8009 and SFF-8012 on power pin dimensions has to be resolved.

Two SSWG's on device form factors and associated connectors are expected to produce several Specifications in the near future.

The project for rack mount of drives with the Unitized Connector has been canceled.

An idea on how to use the two remaining Reserved pins in the SCA connector to gather information from sensors in the cabinet was discussed. The suggestion that disk drives provide the gathered information in a SCSI Mode Page met with a noticeable lack of enthusiasm by the drive vendors present.

Concerns were expressed over intermatibility of AMP's SCA-2 blind mate connector proposal with the Molex SCA design. A related issue is whether the resistor for the power pins will be on the drive or the backplane.

All but one of the outstanding issues on ATAPI SFF-8020 have been resolved. A new revision of SFF-8020 will be generated for submittal to X3T10 as part of the ATA-3 and ATAPI projects.

The meetings on Friday morning have been going so smoothly that it may be possible to reduce the amount of time needed for SFF, and make do with an evening meeting. With the ATA-3 and ATAPI projects wanting time, it is suggested a re-scheduling of plenary week meetings be considered.

### **12.3 IEEE P1394 [Marazas]**

###See John's laptop###

### **12.4 IT8 [Lohmeyer]**

No report. Gene proposed and John agreed that this liason

### **12.5 IEEE P1285 Status [Pak]**

No report received.

### **12.6 PCMCIA Report [McLean]**

The last meeting was two weeks ago, devoted to a page by page review of the new release. The schedule for the new release is review in December and public release in January.

Larry Barnes is heading an group to review the relationship of SCSI to PCMCIA. That group will report to PCMCIA.

### 12.7 AIIM C21 [Podio]

George Penokie reported that he had been contacted by Fernando Podio. AIIM believes that, by assigning codes, X3T10 has approved their entire proposal. George (and other committee members) believe that AIIM would be bringing a revised proposal back to X3T10. John took an action item to contact Fernando Podio regarding the status of the C21 project.

### 13. Review of Action Items

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

### 14. Meeting Schedule

The next plenary meeting of X3T10 will be January 12, 1995, in Lake Tahoe, CA, at the Harrahs Lake Tahoe Hotel (702-786-3232), hosted by Silicon Systems, Inc. The meeting will begin at 1:00 pm on Thursday.

The meeting list for the next plenary week is:

**January '95 Meeting Map**

Sunday 1/8	9	10	11	12	1	2	3	4	5	6	7	8		
	+=====+													
							SSA electrical I/F					(25)		
	+=====+													
Monday 1/9	9	10	11	12	1	2	3	4	5	6	7	8		
	+=====+													
		SCSI CAM Working Group											(25)	
	+-----+													
		SSA-PH working group								SSA UIG			(30)	
	+-----+													
		XOR commands SG				MMC WG								(20)
	+=====+													
Tuesday 1/10	9	10	11	12	1	2	3	4	5	6	7	8		
	+=====+													
		X3T10.1											(40)	
	+-----+													
		(SPI2)				SCSI-3 WG								(40)
	+-----+													
		SCC & RAB Mtg												(40)
	+=====+													
Wednesday 1/11	9	10	11	12	1	2	3	4	5	6	7	8	9	
	+=====+													
		SCSI-3 WG											(Procedures)	(45)
	+-----+													
		SFF Form Factor WG												(10)
	+-----+													
Thursday 1/12	9	10	11	12	1	2	3	4	5	6	7	8	9	
	+=====+													
		ATA/ATAPI WG				X3T10 Plenary							(40/80)	
	+-----+													
		SSC/SMC WG												(10)
	+=====+													
Friday 1/13	8	9	10	11	12									
	+-----+													
		SFF												(80)
	+-----+													

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)  
 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)  
 Plenary: Full Committee Meeting  
 RAB: RAID Advisory Board (not an X3 activity)  
 RAID: Redundant Array of Independent Devices  
 SCC: SCSI-3 Controller Commands (RAID)  
 SFF: Small Form Factor Industry Group (not an X3 activity)  
 SG: Study Group  
 SPI2: Second Generation SCSI-3 Parallel Interface  
 SSA: Serial Storage Interface  
 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
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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	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
ATA, 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.com
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 weber@star.enet.dec.com
SBC	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	Norm Harris	(408) 945-8600 x2230 nharris@adaptecc.com
SCC	George Penokie	(507) 253-5208 gop@rchvmp3.vnet.ibm.com
Other Activities	John Lohmeyer	(719) 573-3362 john.lohmeyer@ftcollinsco.ncr.com

The long-term X3T10 meeting week schedule is:

Date	Location	Host/Comments
Jan 9-13, 1995	Lake Tahoe, NV	SSI
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		
Mar 11-15, 1996		
May 6-10, 1996		
Jul 15-19, 1996		
Sep 9-13, 1996		
Nov 4- 8, 1996		

#### 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 is automatically deferred to the plenary group.

Skip Jones moved and Jim McGrath 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 \_:\_\_\_ p.m. on Thursday November 10, 1994.

Meeting Attenders -- Enclosure (1)

Name	S	Organization	Electronic Mail Address
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\_\_\_ People Present

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

Nov \_\_, 1994 - X3T10 Membership - Enclosure (2)

