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 #13
                Dallas, TX -- January 11, 1996

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Agenda

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2. Approval of Agenda

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    8.18 SCSI-3 Fast-20 Parallel Interface (Fast-20) {Project 1071-D} [Lamers]
    8.19 SCSI Parallel Interface - 2 (SPI-2) {Project 1142-D} [Ham]
    8.20 SCSI Enhanced Parallel Interface (EPI) Technical Report {Project 1143-D} [Ham]
    8.21 SCSI Fibre Channel Protocol - 2 (FCP-2) {Project 1144-D} [Snively]
    8.22 Boot Considerations Technical Report {Project 1154-DT} [Penman]
    8.23 SCSI-3 Serial Bus Protocol 2 (SBP-2) {Project 1155-D} [Roberts]

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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 11, 1996. He thanked Jim McGrath of Quantum Corp. for hosting the meeting.

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 additions and changes:

> 10.3 Software Write Protect [Milligan]
> 10.4 SPI Amendment Project Proposal [Johansson]
>
> 11.2.1 SC 25 N 262 SPI Rev 15A CD Letter Ballot.
> 11.2.2 SC 25 N 263 SBP Rev 19 CD Letter Ballot.
> 11.2.3 SC 25 N 264 SAM Rev 18 CD Letter Ballot.
> 11.2.4 SC 25 N 265 Fast 20 Rev 6 CD Letter Ballot.
> 11.2.5 SC 25 N 266 SCC Rev 6 CD Letter Ballot.
> 11.2.6 SC 25 N TBD FCP Rev 10 CD Letter Ballot.

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 ANSI International Program Fee (also $300) is billed at the same time.

The Chair said he had sent letters to 17 people from 8 organizations informing them that their membership was in jeopardy due to non-attendance (see 95-042r0) and that their membership would be terminated if they did not attend this meeting. All organizations were represented at this meeting except:

Advanced Micro Devices
Thomas & Betts

Organizations not present were 'terminated' (that is, the principal was changed to observer and the first alternate was dropped. Any additional alternates were changed to observer status).

Two new organizations joined X3T10 at the meeting:

Ophidian Designs
Toshiba America

The day after the plenary meeting, John Lohmeyer received an email from Alan Olson resigning the 3M membership.

The X3T10 membership during the plenary meeting was 51 organizations. The X3T10 membership following the meeting was 50 organizations down from 51 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 (X3T10/95-343r1)

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.

John announced that the 1996 Mailing Subscription Fees (for paper mailings) will go up $60 to $470 U.S. and $900 international.

Larry Lamers requested that all documents for the next mailing be in his hands by 10:30 a.m. on Thursday January 18, 1996. Documents received after this time will go into a subsequent mailing.

Larry Lamers reminded the committee of the requirements for document submission to be included in the committee mailing. Since 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. Document X3T10/95-361r0 contains instructions for expeditious delivery of documents to Larry.

In keeping with the X3T10 committee's new efforts for electronic document filing and distribution, Larry requested that electronic copies of all documents, in their native format, be made available to him. The electronic copies can be emailed directly to Larry (at ljlamers@corp.adaptec.com), placed on the SCSI BBS (719-574-0424), or they can be ftp'd to ftp.symbios.com and placed in the /pub/standards/io/incoming directory. In the latter two cases, please also send an email to Larry (at ljlamers@aol.com) informing him of the exact file name and location of the file.

As usual, minutes are also available on the SCSI BBS (719-574-0424) and will be distributed to the SCSI Reflector. To be added to the SCSI Reflector, send an email to majordomo@symbios.com with the line 'subscribe scsi' in the message body. The X3 Secretariat maintains a World Wide Web page at http://www.x3.org. Symbios Logic maintains a World Wide Web page on behalf of X3T10 at http://www.symbios.com/x3t10.

The current document register is enclosure (3).

Larry Lamers described an invoice for professional editing of the ATA-2 document from Pamela Kornitsky in the amount of $1040.00. Bob Snively moved that X3T10 authorize payment for the invoice. Pete McLean seconded the motion. The motion passed 38:0:0:13=51 John took an action item to request that the X3 Secretariat pay the invoice.

6.   Call for Patents

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

John reported that Micropolis has not responded to the letter he sent following the March '95 meeting (95-011r0) regarding US Patent 5,191,584. He assumes that this means Micropolis does not believe the patent reads on the X3T10 projects.

Compaq Computer did respond to the letter John sent following the May '95 meeting (95-029r0). The response (96-007r0) only deals with the "SMART" specification and does not address the ATA Security Issues. This patent issue is being transferred to X3T13 since it deals with the ATA 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

116)   Gene Milligan 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. *Carryover*
123)   Larry Lamers will conduct a letter ballot for forwarding ATA-3 toward first public review. *Complete*
124)   John Lohmeyer will forward SBP revision 22 to X3 for processing toward second public review. *Complete*
125)   John Lohmeyer will forward 95-360 (the OUI management proposal) to X3. *Complete*
126)   John Lohmeyer will forward 95-333r1 (the SAM-2 Project Proposal as amended) to X3. *Complete*

127)   Larry Lamers will prepare an amendment for SPI for review by X3T10. *Complete*
128)   Larry Lamers will conduct a letter ballot for forwarding SIP revision 8 toward first public review. *Complete*
129)   John Lohmeyer will forward the revised X3T10 Policies and Procedures to X3. *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. He gave several updates that occurred after the copies were printed.

8.2   X3T10.1 Task Group Report [Hallam]

Larry Lamers reported for Ken Hallam who was unable to attend. The first generation SSA documents are out for X3T10 letter ballot on forwarding to first public review. The task group has begun work on the second generation SSA documents. Gene Milligan expressed concerns about the timing of the X3T10 letter ballots.

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

John reported that CAM is awaiting ANSI Board of Standards Review approval.

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

Larry Lamers reported that SPI is awaiting ANSI publication. John reported that X3T10 is working on an amendment for SPI to correct several errors in Annexes B and D.

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

John reported that the X3T10 letter ballot on SIP had closed and that several comments were received (see item 10.1).

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

John reported that two people attended the CAM-3 working group meeting earlier this week. Bill has prepared revision 1 of CAM-3 which will be available on the ftp site.

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

John reported GPP has been registered by ANSI. ANSI does not approve technical reports, they simply register them. It is designated X3/TR-16-1995. Publication should occur soon.

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

John reported that SBP is waiting for second public review to begin. He did not have the dates yet.

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

John reported that FCP ended its second public review, received no comments in public review, and is at X3 letter ballot, which will close on February 29th.

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

John reported that SAM ended its second public review, received no comments in public review, and is at X3 letter ballot, which will close on February 29th.

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

Ralph Weber reported that revision 9 will be provided for the mailing. John announced that a letter ballot for forwarding SPC to first public review will be held in conjunction with the mailing.

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

Gene Milligan reported that he has not received working files from the previous technical editor. He reported briefly on a review of unfinished proposals held at the working group meeting. Gene proposed that a cutoff for new proposals be set for the end of the March meeting with a letter ballot or stabilization vote at the May meeting. There were no objections to Gene's proposed schedule.

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

Ted Lappin reported that revision 6 will be available in the next mailing. He described a working group discussion of aborted writes.

Ted reported that r6 makes reserve and release commands mandatory for communications devices.

The minutes of the SSC/SMC Working Group meeting can be found in 96-115.

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

John reported that no progress has been made on SGC.

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

Eric Oetting reported on a working group discussion of enhancements for medium changer features. The minutes of the SSC/SMC Working Group meeting can be found in 96-115.

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

John reported that SCC ended its second public review, received no comments in public review, and is at X3 letter ballot, which will close on February 29th.

George Penokie reported briefly on a working group meeting called to address requests for additional features for SCC. The main result of the meeting was a call for another meeting, after the new proposals had been reviewed. He requested another joint RAB/X3T10 meeting during the March X3T10 meeting week.

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

Ron Roberts provided the following electronic report:

The meeting was a day and half session to review the rev 4.0 document. Little progress was made due to the presentation of changes to the write process and other changes requested.

The working group has requested that a three day session be held on Feb 13, 14, 15th. The location will be published on the reflectors next week after hosting companies have had a chance to find a location.

The group also requested that the sessions in March be two full days. Tuesday and Wednesday meeting times were requested.

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

John reported that Fast-20 ended its second public review, received no comments in public review, and is at X3 letter ballot, which will close on February 29th.

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

John reported on the SPI-2 Working Group meeting, minutes for which can be found in 96-106. He reported that there is a two-day LVD SCSI meeting scheduled for January 29 and 30 in Denver at the Red Lion Hotel (303-321-3333).

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

Ralph Weber and Larry Lamers reported on the EPI Working Group meeting, minutes for which can be found in 96-107.

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

Bob Snively reported that the FCP-2 project proposal has been approved and no other action was reported.

8.22   Boot Considerations Technical Report {Project 1154-DT} [Penman]

John reported that a draft of the report (95-321r2) was in the last committee mailing. He proposed issuing a forwarding letter ballot following the March meeting.

8.23   SCSI-3 Serial Bus Protocol 2 (SBP-2) {Project 1155-D} [Roberts]

Ron Roberts reported that Peter Johansson is taking over the technical editor's job for SBP-2. Peter reported no other activity.

8.24   SCSI Architecture Model - 2 (SAM-2) {Project xxxx-D [Monia]

John reported that the SAM-2 project proposal is at OMC for approval. He expected that they would send it on to X3 for letter ballot.

8.25   High Availability Study Group [Sicola]

Bob Snively noted that the next high availability meeting (with the RAID Advisory Board) should be very interesting.

9.   Old Business

9.1   Clarification of international program fee [Allan]

John presented a letter from Jean-Paul Emard. Dal Allan reported on a letter he received from ITCC. John agreed to include all letters in the next committee mailing. The information at hand was discussed.

Gary Stephens moved that X3T10 endorse the same proposal as endorsed by X3T11 as reflected in 96-119r0. Bob Snively seconded the motion. Charles Monia requested a roll-call vote. The vote passed 20:3:17:11=51:

Organization	Person	Yes	No	Abs	NP
3M Company					X
Adaptec, Inc.	Mr. Norm Harris	X			
Amdahl Corp.					X
AMP, Inc.					X

Company	Representative				
Amphenol Interconnect					X
Ancot Corp.	Mr. Gary Porter	X			
Apple Computer	Mr. Ron Roberts	X			
BusLogic	Mr. Jaff Lin			X	
Ciprico Inc.	Mr. Gerry Johnsen	X			
Circuit Assembly Corp.	Mr. Ian Morrell	X			
Cirrus Logic Inc.	Mr. Joe Chen			X	
CMD Technology	Mr. Edward Haske	X			
Congruent Software, Inc.	Mr. Peter Johansson	X			
Conner Peripherals					X
Dallas Semiconductor	Mr. Louis Grantham	X			
Digital Equipment Corp.	Mr. Charles Monia			X	
Eastman Kodak Co.	Mr. Robert Reisch	X			
ENDL Associate	Mr. Ralph O. Weber		X		
Exabyte Corp.	Mr. Edward Lappin	X			
FSI Consulting Services	Mr. Gary R. Stephens	X			
Fujitsu Computer Products,Am	Mr. Robert Liu	X			
Hewlett Packard Co.	Mr. Stephen Holmstead	X			
Hitachi Cable Manchester,Inc	Mr. Zane Daggett	X			
Honda Connectors					X
IBM Corp.	Mr. George Penokie			X	
IIX Consulting					X
Iomega Corp.	Mr. Pat LaVarre			X	
Linfinity Micro	Mr. Dean Wallace			X	
Madison Cable Corp.					X
Maxtor Corp.	Mr. Pete McLean			X	
Methode Electronics, Inc.	Mr. Steve D. Schueler			X	
Molex Inc.	Mr. Jay Neer			X	
NEC Technologies					X
Oak Technology, Inc.					X
Ophidian Designs	Mr. Edward A. Gardner	X			
Panasonic Technologies, Inc	Dr. Akira James Miura			X	
QLogic Corp.	Mr. Skip Jones	X			
Quantum Corp.	Mr. Mark Evans			X	
Seagate Technology	Mr. Gene Milligan		X		
Silicon Systems, Inc.	Mr. Dave Guss			X	
Storage Technology Corp.	Mr. Erich Oetting			X	
Sun Microsystems Computer Co	Mr. Robert N. Snively	X			
Symbios Logic Inc.	Mr. John Lohmeyer		X		
SyQuest Technology, Inc.	Mr. Patrick Mercer			X	
Tandem Computers	Mr. John Moy	X			
Toshiba America	Mr. Tokuyuki Totani			X	
Trimm Technologies					X
UNISYS Corporation	Mr. Dave Wehrman			X	
Unitrode Integrated Circuits	Mr. Paul D. Aloisi			X	
Western Digital Corporation	Mr. Tak Asami	X			
Woven Electronics	Mr. Doug Piper	X			
		20	3	17	11 = 51

9.2   Resolution of 2PR comments (if any) on FCP

John reported that the FCP ended second public review without receiving any comments.

9.3 Resolution of 2PR comments (if any) on SAM

John reported that the SAM ended second public review without receiving any comments.

9.4 Resolution of 2PR comments (if any) on SCC

John reported that the SCC ended second public review without receiving any comments.

10. New Business

10.1 Results of letter ballots on forwarding SIP

John reported on the letter ballot results for forwarding SIP. The SIP ballot passed 44:1:0:6=51. Comments were attached to four of the Yes ballots. For complete voting results, see 96-004r1.

Gene Milligan moved that notes on soft reset be removed from SIP and the SftRe bit be made vendor unique in the SPC. Jim McGrath seconded the motion. The committee agreed that a two-thirds vote would be required. The motion passed 36:0:0:15=51.

Gene Milligan described a problem with WDTR (see the SCSI Working Group minutes, 96-108). George described the resolution to the problem, developed since the working group meeting. George agreed to provide written details of the resolution in the resolutions document for the SIP letter ballot comments.

Gene Milligan moved X3T10 accept the comments resolutions as discussed and authorize the editor to make the editorial changes in SIP. After some discussion, there was general agreement that no effective purpose would be served by taking the vote at this meeting. Gene withdrew his motion.

10.2 Actions on Working Group Recommendations

Charles Monia moved that X3T10 accept 95-260r3 as revised (Set Capacity Proposal) for inclusion in the SPC. Gene Milligan seconded the motion. The motion required a 2/3 rds vote to pass due to the stabilized state of SPC. The motion passed 33:0:0:18=51.

Ralph Weber moved that X3T10 accept 95-240r4 as revised (Device Identification VPD Page) for inclusion in the SPC, per the previous stabilization agreement for the SPC. Eric Oetting seconded the motion. The motion passed 35:0:0:16=51.

Gene Milligan moved that X3T10 accept 96-116r0 as revised (WRITE BUFFER Microcode Download Note) for inclusion in the SPC. Charles Monia seconded the motion. The motion required a 2/3 rds vote to pass due to the stabilized state of SPC. The motion passed 35:0:0:16=51.

Ed Gardner moved that X3T10 accept 95-348r1 as revised (FCP-2 Usage of the Disconnect-Reconnect Mode Page) for inclusion in FCP-2. Gary Porter seconded the motion. The motion passed 35:0:0:16=51.

10.3 Software Write Protect [Milligan]

Gene Milligan presented an unnumbered draft proposal for moving the software write protect definition from the SSC to the Control mode page. Gene moved that X3T10 adopt the proposal as a change to the SPC. Bob Snively seconded the motion. The motion required a 2/3 rds vote to pass due to the stabilized state of SPC. The motion was discussed and numerous changes were proposed. The motion failed 9:18:0:24=51.

Work on the software write protect changes was remanded to the working group.

10.4 SPI Amendment Project Proposal [Johansson]

Peter Johansson presented a project proposal for an SPI amendment (96-118). John noted that the project proposal has a severely limited scope in order to expedite completion of the project. The nature of the scope and the project intent were discussed. Peter Johansson moved that the project proposal be forwarded to X3 for further processing. Skip Jones seconded the motion. The motion passed 31:0:0:20=51. John took an action item to forward the SPI amendment project proposal to X3 for further processing.

11.   ISO

11.1   ISO Report [Milligan]

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

ISO Report 1/96

As reported in November JTC 1 has issued twenty one NWI letter ballots concerning X3T10, 11, and 12 closes 19 January. The ballots on X3T10 projects are:

ISO/IEC JTC 1 N 3696 SPI

ISO/IEC JTC 1 N 3697 SBP

ISO/IEC JTC 1 N 3698 SAM

ISO/IEC JTC 1 N 3699 Fast-20

ISO/IEC JTC 1 N 3701 SCC

ISO/IEC JTC 1 N 3702 FCP

The IR has submitted the X3T10 recommendation for a set of YES ballots on each of these projects. In addition he has lobbied with experts in Sweden, Denmark, France, The UK, and Italy, to join Germany, Japan, and the USA in support of I/O standards development. Commitments were received from Denmark and Ireland for the experts to promulgate the lobbying with their national body representatives for a favorable response to Question 3 (committing resources).

The venue notice for the SC 25 meeting in London has been received. Unfortunately the host country changed the meeting date from the week of 3 June to the week of 17 June. As a consequence, in addition to complaining, the IR is has requested that the Acting Chair of X3T13 suggest that any required ATA working group be changed from the week of 17 June to the week of 3 June. X3T13 should address that request during their January meeting.

The IR recommends that X3T10 approve their recommended delegation for the SC 25/WG 4 meeting during the March meeting. Consequently any potential delegates should confirm their management's support for their attendance and notify the IR that they wish to be nominated to the delegation. The X3T10 May meeting agenda should include an ISO agenda item for instructions to the delegation.

Although they had not been yet received by the IR, letter ballots SC 25 N 262-267 are in transit for SPI Rev 15A, SBP Rev 19, SAM Rev 18, Fast 20 Rev 6, and SCC Rev 6 with a closing date of 4/30/96. X3T10 should act on these letter ballots at this meeting. In addition it is likely that FCP Rev 10 is in transit hopefully with the same closing date and X3T10 should also act on FCP at this meeting.

JTC 1 is balloting N 3771 The Normative Referencing of Specifications other than International Standards in JTC 1 International Standards - Guidelines for SCs with a closing date of 2/26/96.

Supplement 1 to the ISO/IEC Directives has been issued covering The Transportation of Publicly Available Specifications into International Standards.

The October JT 1 TAG meeting reviewed network based electronics distribution, electronic creation and distribution of standards, amended formatting guidelines, investigation of electronic publication with a fee mechanism, the use of CD-ROM technology, and how to create standards on-line using collaborative technology. A follow-up meeting was scheduled for this week.

An updated list of ISO documents is attached to this report:

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Doc. #      Date        Description
=========   ========    ================================================================
WG4N649     95/06/16    Informal Quality of Service for profile TA54  on SMT

WG4M5       95/06/94    X3T12 FDDI Overview

IS 11801    95/07/15    IT- Generic cabling for customer premises

SC25N240A   95/07/15    disposition of comments on DIS 9316-1

SC25N246    95/07/15    CD9314-25 FDDI SMT-ATS closes 1/31/96

SC25N243    95/07/15    Report of the Secretary on Resolution actions

SC25N238A   95/07/15?   Correcetion of 9314-9 LCF-PMD close to 1/31

IR95010     95/08/21    Provision of IS9316:1995 Final Text

IR95011     95/08/21    Provision of SCC Rev 6 for CD

IR95012     95/08/21    Provision of SPI Rev 15a for CD

IR95013     95/08/21    Provision of Fast-20 Rev 6 for CD

IR95014     95/08/21    SAM Rev 18 for CD

JTC1N3674   95/09/05    Voting on N3841 NWI Administration of Cabling Systems for IT on
                        Customer Premises passed
JTC1N3673   95/09/05    Voting on N3482 NWI Functional Safety Req for Home Electronic
                        Systems
SC25N249    95/09/28    Liaison letter to SC6, IEC/SC 46C, 46D, 48B  Category 6 Cables

SC25N251    95/09/28    Liaison letter to IEC/SC46C&48B transmission  testing of patch
                        cables terminated IEC 603- 7
SC25N256    95/09/28    Liaison letter to IEC/SC 46C characteristics  of 100-120-150 Ohm
                        balanced installed cables
SC25N257    95/09/28    Liaison letter to IEC/SC 46C & 48B Balance testing 100-120 Ohm
                        connecting hdw & cables
WG3N395     95/09/28    Flatman Active Component Interface to GC

WG3N397     95/09/28    Fibre optic connector polarization guide

WG3N398     95/09/28    Annex A Testing optical fibre cabling links

WG3N399     95/09/28    Draft cable installation procedures

WG3N402     95/09/28    Transmission performance specification for field testing of TP
                        cabling systems
WG3N404     95/09/28    Mailing List

WG3N406     95/09/28    Minutes of WG3 10/94 Meeting

WG3N407     95/09/28    EMC Compliance for 10 Base T and FDDI TP-PMD

WG3N392     95/09/28    Excerpt from FDDI TP-PMD

JTC1N3699   95/10/02    NWI SCSI-3 Fast-20 LB closes 1/19/96
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JTC1N3698   95/10/02     NWI SCSI-3 SAM LB closes 1/19/96

JTC1N3697   95/10/02     NWI SCSI-3 SBP LB closes 1/19/96

JTC1N3696   95/10/02     NWI SCSI-3 SPI LB closes 1/19/96

JTC1N3702   95/10/02     NWI SCSI-3 FCP LB closes 1/19/96
JTC1N3714   95/10/02     NWI FC-AL closes 1/19/96

JTC1N3713   95/10/02     NWI FC-GS closes 1/19/96

JTC1N3712   95/10/02     NWI FC-PH-3 closes 1/19/96

JTC1N3711   95/10/02     NWI FC-ATM closes 1/19/96

JTC1N3710   95/10/02     NWI FC-FP closes 1/19/96

JTC1N3709   95/10/02     NWI FC-SB closes 1/19/96

JTC1N3708   95/10/02     NWI FC-PH-2 closes 1/19/96

JTC1N3707   95/10/02     NWI FC-FG closes 1/19/96

JTC1N3706   95/10/02     NWI FC-LE closes 1/19/96

JTC1N3705   95/10/02     NWI FC-SW closes 1/19/96

JTC1N3704   95/10/02     NWI HIPPI-ATM closes 1/19/96

JTC1N3703   95/10/02     NWI HIPPI-SE closes 1/19/96

JTC1N3695   95/10/02     NWI FDDI TP-PMD closes 1/19/96

JTC1N3694   95/10/02     NWI FDDI SMT-2 closes 1/19/96

JTC1N3693   95/10/02     NWI Pathways for cabling closes 1/19/96

JTC1N3717   95/10/02     DTR 14543-2 Home Electronics Systems Arch. Part 2: Communication
                 Layers - Closes 1/19/96
JTC1N3716   95/10/02     DTR 14543-1 Home Electronics Systems Arch.   Part 1: Device
                 Modularity - Closes 1/19/96
JTC1N3715   95/10/02     DTR 15067  Home Electronics Systems Lighting Model for HES

Pattay      95/10/10     Fax of ITTF final editorial requests 9316-1

Milligan    95/10/11     Ack 9316-1 comm; use SMT-2 as is;SMT-ATS p148

IR95015     95/10/12     Yes vote with Comment LCF-PMD CD

JTC1N3701   95/10/2      NWI SCSI-3 SCC LB closes 1/19/96

SC25N250    95/10/20     List of documents N 201-250

SC25N252    95/10/20     Voting CD14709-3 IT- Planning & installation  Guides for cabling
                 Prt 3: Copper & Fibre Cable
SC25N259    95/10/20     Oehlers' presentation on 11801 Generic Cablng

SC25N274    95/10/20     SC25/WG3 Draft Minutes of 6/95 meeting

SC25N247    95/10/20     CD9314-10 FDDI TP-PMD closes 96/04/30

SC25N246A   95/10/20     Missing pages for CD9314-25 FDDI SMT-ATS

SC25N272    95/10/20     Venue notice SC25 6/17-21/96 London

WG4N650     95/11/03     Liaison proposal on keyboards from SC18/WG9
```

```
 WG4N651    95/11/07    List of NWI ballots

 Barra      95/11/8     Req for rec votes on NWIs SCC; Fast-20; SAM;  SBP; SPI; and FCP
                        due 12/8 for JTC1 1/19/96
 IR95018    95/12/18    Conversion of EIA Specifications to Anderson
```

11.2   ISO New Business

11.2.1   SC 25 N 262 SPI Rev 15A CD Letter Ballot.

The IR, Gene Milligan, moved that X3T10 recommends a YES vote on the SPI Rev 15A ballot with a comment concerning the defects in Annexes B and D. Bob Snively seconded the motion. The motion passed 28:2:0:21=51. Ed Gardner and Jim McGrath stated that their negative votes represent an objection to all participation in international activities by X3T10 until the IPF issue is resolved.

Peter Johansson took an action item to write detailed comments on the defects in Annexes B and D of SPI Rev 15A by the March Plenary meeting.

11.2.2   SC 25 N 263 SBP Rev 19 CD Letter Ballot.

The IR, Gene Milligan, moved that X3T10 recommends a YES vote on the SBP Rev 19 ballot with an expansive comment requesting that the DIS be based upon Revision 22 with a summary of the substantive changes between 19 and 22. Paul Aloisi seconded the motion. The motion passed 30:3:0:18=51. Ed Gardner and Jim McGrath stated that their negative votes represent an objection to all participation in international activities by X3T10 until the IPF issue is resolved. Ron Roberts stated his objection was to doing the work.

Implicit in the motion is an action item for the technical editor Ron Roberts to supply the summary of substantive changes to the IR by 3/18/96.

11.2.3   SC 25 N 264 SAM Rev 18 CD Letter Ballot.

The IR, Gene Milligan, moved that X3T10 recommends a YES vote on the SAM Rev 18 ballot. Charles Monia seconded the motion. The motion passed 31:2:0:18=51. Ed Gardner and Jim McGrath stated that their negative votes represent an objection to all participation in international activities by X3T10 until the IPF issue is resolved.

11.2.4   SC 25 N 265 Fast 20 Rev 6 CD Letter Ballot.

The IR, Gene Milligan, moved that X3T10 recommends a YES vote on the Fast 20 Rev 6 ballot. Ted Lappin seconded the motion. The motion passed 31:2:0:18=51. Ed Gardner and Jim McGrath stated that their negative votes represent an objection to all participation in international activities by X3T10 until the IPF issue is resolved.

11.2.5   SC 25 N 266 SCC Rev 6 CD Letter Ballot.

The IR, Gene Milligan, moved that X3T10 recommends a YES vote on the SCC Rev 6 ballot. Bob Snively seconded the motion. The motion passed 32:2:0:17=51. Ed Gardner and Jim McGrath stated that their negative votes represent an objection to all participation in international activities by X3T10 until the IPF issue is resolved.

11.2.6   SC 25 N TBD FCP Rev 10 CD Letter Ballot.

The IR, Gene Milligan, moved that X3T10 recommends a YES vote on the FCP Rev 10 ballot with an expansive comment requesting that the DIS be based upon Revision 12 with a summary of the substantive changes between 10 and 12. Bob Snively seconded the motion. The motion passed 31:2:0:18=51. Ed Gardner and Jim McGrath stated that their negative votes represent an objection to all participation in international activities by X3T10 until the IPF issue is resolved.

Implicit in the motion is an action item for the technical editor Bob Snively to supply the summary of substantive changes to the IR by 3/18/96.

12.   Liaison Reports

12.1   X3T11 Liaison Report [Cummings]

Dal Allan reported on the X3T11 meeting. Roger Cummings, X3T11 Chair, provided the following electronic report:

"X3T11 met on December 6, 1995 with 91 people in attendance. Power I/O lost membership for failure to attend meetings and return letter ballots. McData lost membership because of their acquisition by EMC. ENDL Consulting and 3M were dropped as member organizations on the instructions of ANSI because of non-payment of the International Participation Fee (IPF). Brocade Communications, Gadzoox Microsystems and Compaq Computer were added as new member organizations. The membership of X3T11 is now 60 organizations.

A motion was made to request that X3T11 members pay 1 IPF per Technical Committee into a escrow account until the IPF issue is resolved, but by a vote of F30-O00-DNV30 consideration of the motion was postponed until the February X3T11 meeting. (X3T11 Chair's note: Some e-mail which has recently been distributed has given the impression that this motion was in some sense approved - this is NOT the case.)

The results of eight X3T11 LBs were announced.

1)   Forwarding a Project Proposal for HIPPI Autoconfiguration (HIPPI-AC) to OMC for further processing passed with F52-O00-DNV09.

2)   Forwarding a working dpANS, for the Revised IPI-3 Disk project, for further processing including an OMC review and a first Public Review passed with F54-O00-DNV07.

3)   Forwarding a working dpANS, for the Revised IPI-3 Tape project, for further processing including an OMC review and a first Public Review passed with F47-O00-DNV14.

4)   Forwarding a working dpANS, for the FC-PH-2 project, for further processing including an OMC review and a first Public Review passed with F55-O02-DNV4. Five of the For ballots also included comments, and a new revision is being prepared in response to the comments. It is expected that this revision will be available before the February X3T11 Plenary.

5)   Increasing the minimum launch amplitude for the electrical physical variants in FC-PH-3 to 800 millivolts peak-to peak (from the 600 millivolts peak-to-peak level specified in FC-PH) passed, but result was rescinded at the December Plenary because the increase had been demonstrated to cause interoperability problems.

6)   Including in FC-PH-2 that ac coupling shall be required as part of the receiver electrical cable interface specification passed unanimously.

7)   Forwarding a working dpANS, for the FC-LE project, for further processing including an OMC review and a first Public Review passed with F54-O00-DNV7. Four of the For ballots included comments.

8)   Forwarding a working dpX3TR, for the 10 bit Interface project, for further processing including an OMC review and a first Public Review passed with F56-O01-DNV4.

Motions to recommend that the JTC 1 TAG approve ISO New Work Items on HIPPI Serial, HIPPI-ATM, FC-LE, FC-FG, FC-PH-2, FC-SB, FC-FP, FC-PH-3, FC-GS, FC-AL, FC-SW were approved by votes meeting the 2/3rds rule. It was also agreed with regret to recommend that the New Work Item on FC-ATM not be approved because of the present lack of a Technical Editor in X3T11.

A motion "to accept Rev 4.3 as the final version of HIPPI-FC, and to recommend to OMC that the changes between Revision 4.2 and Revision 4.3 be regarded as non-substantive" was approved by a rollcall vote of F41-O00-DNV19, which met the 2/3rds rule.

It was noted that HIPPI-FP, HIPPI-LE and HIPPI-SC have recently been approved for publication as International Standards.

With regards to FC-PH-2, motions were approved to modify all references to the length of the 100-M5-SN-I variant to read 300 meters, to remove the informative annex on cross-variant interoperability, to include the 266-M5-LE-I variant previously removed in error, and to allow maximum launch power to exceed -5 dBm as long as the applicable laser safety standards are met.

The AMP HSS-DC connector was adopted for use in FC-PH-3 with balanced-mode cables and in FC-AL applications by a rollcall vote of F34-O11-DNV15.

A motion to forward FC-LE Revision 1.0, incorporating responses to the X3T11 Letter ballot comments, for further processing including an OMC review and a first Public Review, passed with F32-O00-DNV38.
A motion to forward the 10 bit Interface Technical Report, Revision 2.2, incorporating responses to the X3T11 Letter ballot comments, for further processing including an OMC review and a first Public Review, passed with F32-O00-DNV38.

A Technical Editor was still solicited for the FC-ATM project, and it was stated that a motion to withdraw this project would be made at the next Plenary if no volunteer had come forward.

The following X3T11 Letter Ballots were authorized:

1) Forwarding a working dpANS, for the FC-FG project, for further processing including an OMC review and a first Public Review.

2) Forwarding a working dpANS, for the SBCON project, for further processing including an OMC review and a first Public Review.

The next meeting of X3T11 is being hosted by Vitro on February 7, 1996 at the Catamaran Hotel, 3999 Mission Boulevard, San Diego, CA 92109. The phone number for the hotel is (619) 488-1081. The cutoff date for reservations is January 5."

12.2   X3T13 Liaison Report [Milligan]

Gene Milligan, the acting chairman for X3T13, gave an oral report and provided the following electronic report:

"11/29-30/95 ATA Ad Hoc Meeting Report

Fifteen people attended the ad hoc meeting. The group did not review X3T10/2008D rev 6 since it was in a secret letter ballot but did review ATAPI X3T10/1120D rev 3.

Agreements were reached for file naming conventions for the new technical committee. Document types are: Word 6 documents; Excel 5 spreadsheets; PowerPoint 4 presentations; Text files in ASCII; and CSV Comma separated value file in ASCII.

 Revision 4 of ATA-2 was made available for the group to review the pre-edit changes. Participants were requested to review the working draft for technical consistency with revision 3.

Tom Hanan reported that the document does not match the format of existing X3 documents and proposed revamping the draft. Tom reviewed a proposed table of contents for the next version.

Pete McLean reviewed ATA Overlap state diagrams.

Mark Evans presented a strawman proposal to alleviate proxy interrupt glitches. The group was receptive to having the strawman expanded.

Curtis Stevens made a proposal for Device Segmentation. This proposal would provide a public and a private area on the storage device. The new commands provide tools to allocate and read or write segments. The consensus of the group was that Curtis should pursue the proposal with modifications resulting from the discussions at the ad hoc meeting.

Since the ad hoc meeting X3 sent out a press release announcing the formation of the AT Attachment Technical Committee X3T13 and the transfer of all the AT Attachment projects from X3T10 to X3T13. The organizational meeting will be 23-26 January at the Crown Sterling Suites in Milpitas.

X3 has approved project 1153 D ATA+PI.

Richard Schnell volunteered to develop a proposal for cache flush control. He also reviewed his suggestions that had been posted on the reflector for ATA+PI.

Pete McLean made a proposal for recommending an implementation for pins A-D to use for drive selection. Members are requested to review this for consideration at the January meeting.

Curtis Stevens reported that presently there is no way to tell which channel is asserting interrupt in a 'Y' cable environment. It may be possible to use the interrupt reason register to accomplish this."

12.3   SFF Industry Group [Allan]

Dal Allan gave an oral report and provided the following electronic report on SFF activities:

```
"SFF Committee Report

An editors SSWG on VHDCI (Very High Density Cable Interconnects) was held in
December, and Bill Ham expects to have a draft SFF Specification based on
the EIA-prepared material by AMP. Another editors SSWG is to be held, this
time on the SCA-2 connector, prior to the next meeting. Most of the emphasis
has been on the back end configurations.

At the working SSWG held on Wednesday, the goal of a backend compatible at
the wire lead interface is unlikely to occur on VHDCI (amongst other things
there are too many manufacturer considerations in tooling). There is a
possibility that the intermediate objective of agreeing on the dimensions of
the back end shroud may be achievable by March.

The 80-conductor cable supplied by Berg to improve the cable plant for ATA
systems found mixed results between the reporting vendors but all of them
were positive (to varying degrees). Adding passive/active termination on the
cable is to be checked over the next couple of months, both independently
and in conjunction with the 80-conductor cable. This avoids the cost penalty
on both the drive and host manufacturer by making it an integration or
customer issue.

The method proposed at the last meeting for SFF-8065/8066 to configure disks
with mechanical interlocks if they operate at high (36V or...) voltages was
rejected by the drive manufacturers. Extensive discussion in the SSWG
resulted in a mixed plan of using color-coding and connector re-location to
prevent mating in the wrong kind of enclosure.
```

```
Connector manufacturers 'agreed to disagree' on dimensions and tolerances
for the SFF-8012 power connector used on 3 1/2" drives, and EIA is in the
final steps of approving them as a standard. Customers are specifying to the
draft EIA standard and this is causing problems. The attitude of connector
manufacturers has undergone a great change at the realization that if things
remain 'as-is' it could be bad for their business. Jay Neer is responsible
to file a public comment and request that approval be delayed until a SSWG
in March can resolve the differences between manufacturers.

A proposal to complement the ESI and SAF-TE efforts on SCSI was made at the
SCA-2 connector interface by using a simple protocol between the device and
the backplane. It is documented as SFF-8067 and was well-received."
```

12.4   IEEE P1394 [Marazas]

John Lohmeyer reported that IEEE 1394 had been approved in December. No other report was available.

12.5   IEEE P1285 Status []

The group was informed that Dennis Pak no longer attends the P1285 meetings. No one was aware of the status of the ballot response. Concerns were raised about the lack of a liaison between X3T10 and P1285.

12.6   PCMCIA Report []

Pete McLean announced that he no longer is attending PCMCIA meetings.

12.7   SCSI Trade Association

Jim McGrath gave an oral report and provided the following electronic report:

```
"STA Report to X3T10 January 11, 1996

Background

Several months ago the SPI working group requested guidance from the marketing
community on the relative business importance of various elements of their work.
A meeting to address this issue lead to a follow up meeting in December to create
a permanent marketing oriented organization to address issues involving parallel
SCSI applications.  At that time the name STA (SCSI Trade Association) was chosen.

Charter

A presentation by the ad hoc steering committee was made on charter.  In sum the
group is dedicated to educating the public about, expanding the use of, and
guiding the development of parallel SCSI.

Organization

Membership is open to any company interested to pursuing the charter of the
association.  Membership is $5000/year ($4000 for RAB members).  Checks to be made
out to SCSI Trade Association and mailed to the facilitator.
```

A steering committee has been chosen consisting of Marc Lowe (Adaptec), Paul Massiglia (DEC), Jim McGrath (Quantum), Gerry Humphrey (Seagate), Harry Mason (Symbios Logic). The facilitator is an ex-officio member. As committees are constituted, committee chairs will also become ex officio members. Harry is the chair of both the steering committee and general organization - Marc is vice chair. The steering committee will work between general meetings, frequently by conference call.

The general membership delegated to the steering committee the task of choosing a facilitator. After a RFP process with three responses, Technology Forums (Joe Molina) was chosen.

In addition to the steering committee members, it is expected that around 10 other organizations will join STA quickly. The organization should easily grow to 30-40 members over the next year, providing enough funds to fulfill the facilitator agreement.

The general meetings are to be held every month in conjunction with X3T10 and X3T11 (like the FCLC) - the precise day is TDB, although it is most likely that the X3T10 meeting will be Monday or Tuesday, and the X3T11 meeting Wednesday or Thursday. The facilitator will be meeting with the leaders of other bodies to coordinate meeting schedule.

Of all the committees likely to be created, the technical committee is of most relevance to X3T10. This committee will NOT do standards work. It will recommend to the general membership technology directions and the relevant importance of various elements of new technology. In a way it will provide guidance on the evolution of technology on a continual basis to a variety or parties, including the standards committee.

It is recommended that X3T10 establish a liaison relationship with STA. STA minutes will be made available to the X3T10 mailing.

Trade Shows

The association is making plans to be present at CeBit, ICC, and WinHEC to inform people of the new parallel SCSI technology (as a counterweight to the efforts by SSA-IA and FCLC).

Naming

The association has approved a naming convention is will use in communicating to the public about parallel SCSI. Product interfaces will be defined as:
Ultra [level] [bus width] [transceiver type]

Level denotes the continuing evolution of the interface and roughly corresponds to the transfer rate (20 and 40 MTRansfers/sec for Ultra-1 and Ultra-2).

Bus Width is narrow (8 bit) and wide (16 bit)

Transceiver type is single ended, high power differential, low voltage differential and universal (LVD and single ended).

```
Not all combinations are legal, and of those legal combinations not all will be
promoted by STA as generally desirable.
```

```
Speed (MT/s)            5               10          20 (Ultra-1)   40 (Ultra-2)
single ended            OK              OK              OK            N.A. high
power                   OK              OK              OK          N.A. differential
low voltage          OK (not         OK (not         OK (not         OK (not
differential         promoted)       promoted)       promoted)       promoted)
universal               OK              OK              OK          OK (LVD only)
```

```
We may also decide to discourage the old differential in favor of the new
differential.
```

```
STA recommendations to X3T10
```

```
The association has already voted to make the following recommendations:
```

```
o   to stabilize a document covering the new LVD technology transferring
    data at speeds up to 40 MTransfers/sec by March 1996.
o   to name the new LVD/transfer rate technology Ultra-2 (rather than Fast40)
    - the association will use Ultra-2.
o   to add to the standard the term narrow to describe 8 bit wide buses.
o   focus on making sure the universal IO driver works (LVD at 40 MT, single ended
    at 20 MT), since that is what STA will be promoting."
```

Gene Milligan noted that it is unfortunate that the STA technical committee has been called a technical committee. It does not accurately reflect the group's purpose.

13.   Review of Action Items

116)   Gene Milligan 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.
131)   John Lohmeyer will request that the X3 Secretariat pay the editing services invoice.
132)   Ralph Weber will change the SftRe bit in the standard INQUIRY data to vendor-specific.
133)   John Lohmeyer will forward the SPI amendment project proposal to X3 for further processing.
134)   Peter Johansson will write detailed comments on the defects in Annexes B and D of SPI Rev 15A by the March meeting.
135)   Ron Roberts will supply the summary of substantive changes between SBP R19 and R22 to the IR by 3/18/96.
136)   Bob Snively will supply the summary of substantive changes between FCP R10 and R12 to the IR by 3/18/96.

14.   Meeting Schedule

The next plenary meeting of X3T10 will be March 14, 1996, in San Diego, CA, at the Hyatt Islandia (619-224-1234), hosted by QLogic Corp. The meeting will begin at 1:00 p.m. on Thursday.

The meeting list for the next plenary week is:

March '96 Meeting Map
(1/11/96 Version)

```
Monday 3/11        9    10   11   12   1    2    3    4    5    6    7    8    9
                   +==========================================+
                   | SPI-2 Working Group                      |          (35)
                   +=================+========================+---+
                   | STA             | FCLC                       |      (40)
                   +-----------------+------------------------+

Tuesday 3/12       9    10   11   12   1    2    3    4    5    6    7    8
                   +==========================================+
                   | EPI WG          | SCSI-3 WG               |          (40)
                   +==================================+=======+
                   | MMC WG                           |                  (20)
                   +===============+===============+===+
                   | SCC/RAB WG    | RAB           |                     (20)
                   +===============+---------------+
                   | CAM-3 WG      |                                     (5)
                   +===============+

Wednesday 3/13     9    10   11   12   1    2    3    4    5    6    7    8
                   +==========================================+
                   | SCSI-3 WG                                |          (40)
                   +==================================+=======+
                   | MMC Working Group                |                  (20)
                   +==================================+
                   | SFF SSWGs                        |                  (40)
                   +----------------------------------+
                   | RAB                              |                  (??)
                   +----------------------------------+

Thursday 3/14      9    10   11   12   1    2    3    4    5    6    7    8    9
                   +---------------+==========================+
                   |  SFF          | X3T10 Plenary            |       (40/70)
                   +===============+==========================+
                   |  SSC/SMC WG   |                                    (10)
                   +===============+

Friday 3/15    8   9    10   11   12   1    2    3    4    5


                   (no meetings planned)
```

    Meetings marked with == are X3T10-authorized meetings.
    Meetings marked with -- are authorized by other groups and may change
    without notice.

Meeting Map Abbreviation Key:
CAM: Common Access Method
CAM-3:   Next generation CAM for SCSI-3
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)
FCLC: Fibre Channel Loop Community (not an X3 activity)

```
I/F:                Interface
High Avail.:        High Availability
LB:                 Letter Ballot
MMC:                SCSI-3 Multimedia Commands (CD-ROM)
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
SCC:                SCSI-3 Controller Commands (RAID)
SCSI:               Small Computer System Interface
STA:                SCSI Trade Association (not an X3 activity)
SFF:                SFF Industry Group (not an X3 activity)
SG:                 Study Group
SMC:                SCSI-3 Medium Changer Commands
SPI-2:              Second Generation SCSI-3 Parallel Interface
SSA:                Serial Storage Interface
SSC:                SCSI-3 Stream Commands (includes Tape)
SSWGs:              Specific-Subject Working Groups
VHDCI               Very High Density Cabled Interconnect
WG:                 Working Group (same as Ad Hoc Group)
X3T10:              Lower Level Interfaces Technical Committee
X3T10.1:            SSA Task Group of X3T10
```

Several other X3T10 events are also planned:

```
Event                Day/Date               Time    Location/contact
-------------------- ---------------------- ------- ------------------------------
SPI-2 LVDS WG        Mo-Tu 1/29-30/96       9-5     Denver, CO / Lohmeyer
ESI SG               2/16                   9-5     Milpitas, CA / Harris
MMC WG               2/13-15/96             9-5     ? / Roberts
```

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

```
Activity                   Contact          Telephone/Email
-------------------------- ---------------- ------------------------------
BOOT TR                    Duncan Penman    (408) 730-2565
                                            penman@netcom.com
CAM & CAM-3                Bill Dallas      (603) 881-2508
                                            dallas@wasted.enet.dec.com
EPI & SPI-2                Bill Ham         (508) 841-2629
                                            ham@subsys.enet.dec.com
FCP & FCP-2                Robert Snively   (415) 336-5332
                                            Bob.Snively@eng.sun.com
GPP                        Gary Stephens    (602) 321-1725
                                            6363897@mcimail.com
SAM                        Charles Monia    (508) 841-6757
                                            monia@starch.enet.dec.com
SBC                        Gene Milligan    (405) 324-3070
                                            gene_milligan@notes.seagate.com
SBP and MMC                Ron Roberts      (916) 677-5714
                                            rkroberts@aol.com
SBP-2                      Peter Johansson  (510) 531-5472
                                            pjohansson@aol.com
SGC                        Thomas Tewell    (415) 459-7978
                                            thomas.tewell@seqadvtech.com
SIP, SCC                   George Penokie   (507) 253-5208
                                            gop@rchvmp3.vnet.ibm.com
SMC                        Erich Oetting    (303) 673-2178
                                            Erich_Oetting@Stortek.com
SPC                        Ralph Weber      (603) 881-1497
                                            roweber@acm.org
SPI,Fast-20,& SSA-xxx      Larry Lamers     (408) 957-7817
                                            ljlamers@aol.com
SSA-S2P & -S3P             John Scheible    (512) 823-8208
                                            Scheible@vnet.ibm.com
SSC                        Edward Lappin    (303) 447-7718
                                            tedl@exabyte.com
Other Activities           John Lohmeyer    (719) 573-3362
                                            john.lohmeyer@symbios.com
```

The long-term X3T10 meeting week schedule is:

```
Date             Location                  Host/Comments
---------------  ------------------------  --------------------------
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
Jan  6-10, 1997  Dallas, TX                Quantum
Mar 10-14, 1997  San Diego, CA             QLogic
May  5-9,  1997  Natick, MA (near Boston)  Digital
Jul 14-18, 1997  Colorado Springs, CO      Symbios Logic
Sep  8-12, 1997  Nashua, NH                Unitrode
Nov  3-7,  1997  Palm Springs, CA          Western Digital
```

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.

Charles Monia moved that X3T10 authorize the X3T10-related meetings and events in the list above. Bob Snively seconded the motion. The motion passed unanimously.

15.   Adjournment

The meeting was adjourned at 5:03 p.m. on Thursday January 11, 1996.

Meeting Attendees -- Enclosure (1)

```
        Name             S        Organization        Electronic Mail Address
----------------------   --  --------------------------  -----------------------
Mr. Norm Harris          P   Adaptec, Inc.           nharris@eng.adaptec.com
Mr. Lawrence J. Lamers   A#  Adaptec, Inc.           ljlamers@aol.com
Mr. John Fulponi         O   AMP, Inc.               JAFulpon@amp.com
Mr. Michael Wingard      P   Amphenol Interconnect   mikwingard@aol.com
Mr. Gary Porter          A   Ancot Corp.             garyp@ancot.com
Mr. Ron Roberts          A   Apple Computer          rkroberts@aol.com
Mr. Jaff Lin             A   BusLogic                jaffl@buslogic.com
Mr. Bob Gannon           O   C&M Corp.               bobg848740@aol.com
Mr. Gerry Johnsen        P   Ciprico Inc.            gerry@ciprico.com
Mr. Ian Morrell          P   Circuit Assembly Corp.  crctassmbl@aol.com
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          Jan 16, 1996 - X3T10 Document Register - Enclosure (3)

X3T10/95-240R4      Date: 1/3/96   Author: J. Lohmeyer  [SY-96-01]
Desc: Device Identification Page Proposal

X3T10/95-260R4      Date: 1/10/96  Author: G. Houlder   [SY-96-01]
Desc: Set Capacity Proposal

X3T10/95-269R7      Date: 11/28/95 Author: P. Aloisi    [SY-96-01]
Desc: SCSI SPI-2 Low Voltage Differential

X3T10/95-348R1      Date: 1/9/96   Author: E. Gardner   [SY-96-01]
Desc: FCP-2 Disconnect-Reconnect Page

X3T10/96-001R0      Date: 11/20/95 Author: J. Lohmeyer  [SY-96-01]
Desc: Agenda for X3T10 Meeting #14 (Mar '96)

X3T10/96-002R0      Date: 11/20/95 Author: J. Lohmeyer  [SY-96-01]
Desc: X3T10 Project Summary - January '96

X3T10/96-003R0      Date: 11/20/95 Author: J. Lohmeyer  [SY-96-01]
Desc: Jeopardy letter for Mar '96 meeting

X3T10/96-004R1      Date: 1/4/96   Author: J. Lohmeyer  [SY-96-01]
Desc: Summary of Letter Ballot Results on ATA-3 (95-044) and SIP (95-045)

X3T10/96-005R0      Date: 11/20/95 Author: J. Lohmeyer  [SY-96-01]
Desc: Response to Public Review Comment #1 on SBP

X3T10/96-006R0      Date: 11/20/95 Author: J. Lohmeyer  [SY-96-01]
Desc: Response to Public Review Comment #2 on SBP

X3T10/96-007R0      Date: 11/29/95 Author: J. David Cabello  [SY-96-01]
Desc: ltr to John Lohmeyer re Compaq patent position on SMART proposed standard

X3T10/96-008R0      Date: 1/5/96   Author: L. Lamers    [SY-96-01]
Desc: Letter Ballot forwarding SSA-PH1 to 1PR

X3T10/96-009R0      Date: 1/5/96   Author: L. Lamers    [SY-96-01]
Desc: Letter Ballot forwarding SSA-TL1 to 1PR

X3T10/96-010R0      Date: 1/5/96   Author: L. Lamers    [SY-96-01]
Desc: Letter Ballot forwarding SSA-S2P to 1PR

X3T10/96-011R0      Date: 1/10/96  Author: J. Lohmeyer  [SY-96-01]
Desc: Jeopardy Letter - Letter Ballots

X3T10/96-101R0      Date: 12/14/95 Author: R. Roberts   [SY-96-01]
Desc: Minutes of MMC Working Group - 12/95

X3T10/96-102R0      Date: 12/16/95 Author: J. Lohmeyer  [SY-96-01]
Desc: Minutes of X3T10 SPI-2 LVDS Working Group Meeting

X3T10/96-103R0      Date: 12/16/95 Author: W. Bridgewater  [SY-96-01]
Desc: Proposed Change for Setup Time Budget

X3T10/96-104R0      Date: 12/16/95 Author: J. McGrath   [SY-96-01]
Desc: Request for full SCSI support with LVDS

X3T10/96-105R0      Date: 12/16/95 Author: J. McGrath   [SY-96-01]
Desc: Request for SPI (Fast-40/LVDS) Stabilization

X3T10/96-106R0      Date: 1/4/96   Author: J. Lohmeyer  [SY-96-01]
Desc: Minutes of SPI-2 Working Group - 1/96

X3T10/96-107R0      Date: 1/4/96   Author: J. Lohmeyer  [SY-96-01]
Desc: Minutes of EPI Working Group - 1/96

X3T10/96-108R0      Date: 1/4/96   Author: J. Lohmeyer  [SY-96-01]
Desc: Minutes of SCSI-3 Working Group - 1/96

X3T10/96-109R0      Date: 1/4/96   Author: J. Lohmeyer  [SY-96-01]
Desc: Minutes of MMC Working Group - 1/96

X3T10/96-110R0      Date: 1/4/96   Author: J. Lohmeyer  [SY-96-01]
Desc: Minutes of X3T10 Plenary Meeting #13

X3T10/96-111R0      Date: 1/5/96   Author: J. Emard     [SY-96-01]
Desc: X3T10 Actions Regarding ANSI/ITCC IPF Payments and X3 TC Membership

X3T10/96-112R0      Date: 1/9/96   Author: J. McGrath   [SY-96-01]
Desc: SIP and Command Queuing

X3T10/96-113R0      Date: 1/9/96   Author: G. Penokie   [SY-96-01]
Desc: Minutes of SCC working group

X3T10/96-114R0      Date: 1/10/96  Author: T. Lappin    [SY-96-01]
Desc: Granularity of Block Size for Tape


X3T10/96-115R0      Date: 1/10/96  Author: T. Lappin    [SY-96-01]
Desc: Minutes of the SSC/SMC Working Group - 1/95
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X3T10/96-116R0        Date: 1/10/96  Author: K. Hallam  [SY-96-01]
Desc: Clarification of WRITE BUFFER

X3T10/96-117R0        Date: 1/11/96  Author: P. Kornitski  [SY-96-01]
Desc: Invoice for ATA-2 Pre-edit

X3T10/96-118R0        Date: 1/11/96  Author: Johansen/Lamers  [SY-96-01]
Desc: Project Proposal for Amendment to SPI

X3T10/96-119R0        Date: 1/11/96  Author: D. Allan  [SY-96-01]
Desc: ANSI International Participation Fee Levy

X3T10/96-120R0        Date: 1/11/96  Author: G. Penokie  [SY-96-01]
Desc: Resolution of Comments on SIP
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