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Reply to: Larry Lamers

To: Membership of X3T13
From: Lawrence J. Lamers, Secretary X3T13
Gene Milligan, Chair X3T13 (acting)
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Subject: Minutes of X3T13 Working Group
September 25-27, 1996 : Irvine, CA

Agenda

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Results of Meeting

1. Opening Remarks

Gene Milligan called the meeting to order at 9:00 a.m., Wednesday May 24, 1996. He thanked Mike Christensen of Phoenix Technologies for hosting the meeting.

As is customary, the people attending introduced themselves. A copy of the attendance list was circulated for attendance and corrections.

It was stated that the meeting had been authorized by X3T13 and would be conducted under the X3 rules. Ad hoc meetings take no final actions, but prepare recommendations for approval by the X3 Technical committee. The voting rules for the meeting are those of the parent committee, X3T13. For the ad hoc, other than straw votes, the voting rules are: one vote per participating company.

Gene Milligan informed the attendees that, as Chair of X3T13, he preferred to be a "Non-voting Chair" with another Seagate employee functioning as the voting member. He indicated the motivation was to facilitate an attempt to Chair the meetings without bias to specific factions positions. However, even in this mode he would reserve the right to cast a vote in the event there were no Seagate representatives present.

The minutes of this meeting will be posted to the X3T13 and the ATA Reflector and will be included in the next X3T13 committee mailing.

2. Approval of Agenda

The electronically distributed agenda was used as a basis for the meeting with adjustments as reflected in these minutes.

3. Attendance

Attendance at working group meetings does not count toward minimum attendance requirements for X3T13 membership. Working group meetings are open to any person or company to attend and to express their opinion on the subjects being discussed.

Lawrence Lamers	Adaptec, Inc.	A1	Pete McLean	Maxtor Corp.	P
Ron Roberts	Apple Computer	A	Son Ho	Neomagic Corp.	G
Ben Chang	Cirrus Logic	G	Mike Christensen	Phoenix Technologies	A
Hale Landis	Consultant	P	Greg Elkins	QLogic Corp.	P
Paul Raikunen	Digital	P	Mark Evans	Quantum Corp.	P
Tony Goodfellow	GSI	P	Gene Milligan	Seagate Technology	P
Richard Harcourt	GSI	A1	Marc Noblitt	Seagate Technology	A
Tom Wood	GSI	G	Jeff Reid	Seagate Technology	G
Dan Colegrove	IBM Corp.	P	Yogi Schaffner	Silicon Systems, Inc.	P
John Blagaila	Integral Peripheral	G	David Evans	Symbios Logic	G
Eugene Kherson	lomega	G	Tom Hanan	Western Digital Corp.	P
Paul Jackson	lomega Corp.	G	Devon Worrell	Western Digital Corp.	A1
Ron Stephens	lomega Corp.	G			

1. Document Distribution

The following documents were distributed:

- X3T13 Document Register
- X3T13/1153D Rev 6 ATA/ATAPI-4 [McLean]
- D96104R8 ATA Overlap Proposal [McLean]
- D96103R2 Feature Status Reporting [McLean]
- D96114R1 Proposal for removing redundant information [McLean]
- D96126R1 Proposal for new ATA Device Connector with Jumper Configuration [Evans]
- D96142R6 Proposal to Modify Reset Protocol [Evans]
- Excerpt from X3-SD2 Technical Report Forewords

2. Review of Old Action Items

- 54) Tom Hanan to investigate the reaction of ATAPI devices to soft reset and sleep modes. Completed.
- 55) Tom Hanan and Mark Evans to bring samples of the connectors to the next meeting. Overtaken by Events.
- 56) Gene Milligan to determine if a forward is required for the EDD Technical Report. Complete. The answer is yes. See document distribution

3. ATA-2 - Project 0948-D

Larry Lamers reported that the ANSI editor has requested the files; the publication process is underway.

4. ATA-3 - Project 2008-D

Gene Milligan reported that the public review has closed. The only comment is the one submitted by Pete McLean at the direction of the technical committee. The response has been accepted by the commenter; the revised document, rev7a, has been prepared; the dpANS will be submitted for X3 letter ballot.

5. Enhanced BIOS Disk Drive Technical Report - Project 1226DT

Curtis Stevens had intended to have a revised draft available for discussion at this meeting. However he was not in attendance and the status of the revision is not known. A project number has been assigned.

Gene Milligan is still pursuing a resolution of the patent policy vis-a-vis technical reports with ANSI.

Hale Landis asked if X3T10 drops the boot issues technical report, should SCSI support be added to EDD? Three alternatives were discussed; ignore SCSI; define a SCSI addition to EDD as a separate X3T10 technical report; or request that X3T10 provide a definition for X3T13 to process in the 1226 technical report. No decision was reached at this meeting.

6. Old Business

6.1 Adding feature status to IDENTIFY DEVICE[McLean] (D96103r1)

There was discussion on whether feature status support was mandatory, it is; whether a zero indicates the feature is not supported, it does not (since it could be supported according to an earlier version of the ATA standard), but a one indicates that it is supported; and how to indicate which style of feature set (ATA vs packet) is supported. Packet devices should support only one version of power management. Those that report support of the ATA power management should not support the packet version. Packet devices which do not indicate support of ATA power management should support power management according to the appropriate packet command set.

6.2 Strong Command Overlap and Command Queuing [McLean] (D96104r8)

Pete McLean reviewed the new proposal which removed the interrupt pending bit and added the flow charts.

Devon Worrell moved and Dan Colegrove seconded that 96104r8 be incorporated into ATA / ATAPI -4 with the READ DMA OVERLAP and WRITE DMA OVERLAP commands removed. The motion carried 12:1:4.

The Chair said he would like to have a vote indication the support or lack of support for queuing READ DMA and WRITE DMA commands. Tom Hanan said they queuing will eventually be required to continue performance improvements. Dan Colegrove noted that queuing for disc drives will not be beneficial until a viable overlapped interrupt mechanism is defined and agreed to. Ron Roberts moved Mark Evans seconded that work on 96104 be stopped. The motion carried 9:2.

John Blagaila stated that he sees no reason to stop work on what may be a needed feature.

6.3 Reset Proposal [Evans] (D96142r6)

Mark Evans reviewed revision 5 of the proposal.

Tom Hanan moved and Marc Noblitt seconded that the 31 seconds be changed to 5 seconds in item g) of 9.1.1. The motion carried unanimously.

Pete McLean moved and Hale Landis seconded that revision 6 (prepared by Mark Evans) be incorporated into the next revision of the ATA / ATAPI -4 working draft. The motion carried unanimously.

6.4 Items from the Open Issues List [] ()**6.4.1 400ns delay before reading the status register**

It was agreed by unanimous consent to put the delay in three places: 1) time from command register written; 2) time from drive/head register written; 3) time after last word of data transfer completed.

6.4.2 Software Reset vs Device Reset

It was agreed by unanimous consent to delete this item from future agenda.

6.4.3 Device Reset Sleep Mode

Devon Worrell stated that it is the intention to have all packet devices hardware decode the reset (08h) and come out of either sleep mode.

6.5 SFF Option Pins

Pete McLean moved and Mark Evans seconded a motion to incorporate the two connector options, defined by SFF, into the next revision. The motion passed by unanimous consent.

6.6 D96114R1 Proposal for removing redundant information [McLean]

It was agreed to: Change timing diagram for IORDY in Fig 17 to show asserted and released and add a requirement of a maximum of 5 ns for release; delete note 5 on page 9; add a definition for signals used during DMA transfers; and take out sleep as a separate protocol.

6.7 Security Erase

The current proposal does not allow for the user to control the pattern. Control of the pattern is a necessary feature as reported by Tom Hanan. Dan Colegrove will add the needed feature to the next version of the proposal. The Chair urged that Dan upload the proposal in time for action to be taken at the October meeting.

He noted that SCSI has already completed the definition of the feature although the SCSI method is not applicable to ATA devices.

6.8 DVD Copy Protection

Gene Milligan reported that the X3 OMC DVD Copy Protection ad hoc committee has submitted their report and has recommended that for now, that the ad hoc should be maintained to follow progress on standards for this application. The full report is X3/96-0456.

6.9 Power Management Times

Tom Hanan moved and Dan Colegrove seconded that a proposal be developed to add an IDENTIFY word to specify a minimum time that a device uses for the standby timer. The motion passed unanimously.

The value needs to be the number of seconds that is the minimum time the device rounds off to.

Does the minimum time affect back to back standby immediate commands? No.

6.10 SFF

Pete McLean gave a brief summary of the last SFF meeting. Tom Hanan emphasized that the SFF meeting 10/22/96 in Honolulu will provide a series of tutorials on the various SFF ATAPI definitions. He asked that those intending to attend the tutorials advise Dal Allan so that Dal can make the appropriate meeting arrangements.

6.11 X3T13 Reflector, ftp, and Web Site Setup [Hanan]

The <http://www.X3T13.com> is operational. The reflector is x3t13@dt.wdc.com.

Larry Lamers to send Tom Hanan a CD with the existing pdf files. Both Word format and PDF format will be available on the ftp site.

7. ATA-4 - Project 1153D

7.1 Review of current working draft

Add note to pull-up values to indicate that they are based on 5 volt. The 3 volt may need different values but at the moment no one accepted an action item to propose the values.

The group reviewed all the changes which have been made in the draft. Pete McLean will accept the revision markings in the current draft so that the next draft will show just the revisions from this meeting.

7.2 Schedule update

Mark Evans noted that a proposal for DMA-33 will be submitted by Quantum at the next meeting. Dan Colegrove noted that a proposal for SECURE ERASE may be submitted at the next meeting.

The working group recommended that new proposals submitted after the next working group be considered for a subsequent project.

Given this the schedule was adjusted:

Proposal cut-off 10/96

Final Edit 4/97

Letter Ballot 5/97

Resolve comments and forward to X3 7/97.

8. New Business

There was none.

9. 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.

The Chair requested that any participant aware of patents or patent disclosures that may be required to comply with any publications resulting from X3T13 projects provide an early disclosure of such patent and offer to license such patents under reasonable and non-discriminatory conditions in accordance with the ANSI Patent Policy. No additional patents were identified by the attendees in response to this call.

10. Open Issues List Summary

The following items were added to the list at this meeting:

- 1) How to specify the pull-up and pull-downs for different voltage environments.
- 2) Revisit access restrictions in functional descriptions of registers.

11. Review of New Action Items

- 57) Yogi Schaffner to develop proposal for register access restriction corrections.
- 58) Tom Hanan to develop proposal for a minimum time for the standby timer.
- 59) Larry Lamers to send Tom Hanan CD with 'pdf' files on it.
- 60) Dan Colegrove to complete SECURE ERASE proposal.
- 61) Hale Landis to convince the group of the addressing conundrum around SET MAXIMUM ADDRESS.
- 62) Devon Worrell to provide definition of ATAPI protocol for device one only (8.8.1.1).
- 63) Gene Milligan to submit the revised ATA-3 rev7a dpANS for X3 letter ballot.
- 64) Devon Worrell to expand the definition of the Device Reset protocol.

12. Meeting Schedule

The next plenary meeting of X3T13 will be October 25, 1996 at the Sheraton Princess Kaiulani Hotel, in Honolulu, HI, hosted by Quantum. For reservations call 808-922-5811.

The next working group meeting will be October 23-24, 1996 at the Sheraton Princess Kaiulani Hotel, in Honolulu, HI, hosted by Quantum. The 10/24 meeting will be followed by a ANSI process tutorial. For reservations call 808-922-5811.

The subsequent working meeting will be November 13-15, 1996 at the WD facility hosted by Western Digital. The long term meeting schedule is:

Date	Location	Host	Contact
November 13-15, 1996	Irvine, CA	Western Digital	Tom Hanan
January 22-24, 1997 *	San Jose, CA	Seagate	Marc Noblitt
February 19-21, 1997	Boulder, CO	Symbios Logic	David Evans
March 19-21, 1997	San Jose, CA	Seagate	Marc Noblitt
April 23-25, 1997 *	Irvine, CA	Western Digital	Tom Hanan
May 21-23, 1997	Boulder, CO	Seagate	Marc Noblitt
June 18-20, 1997	Irvine, CA	Western Digital	Tom Hanan
July 23-25, 1997 *			
August 20-22, 1997			

September 24-26, 1997	Irvine, CA	Phoenix Technologies	Curtis Stevens
October 22-24, 1997*	Honolulu, HA	Quantum	Mark Evans
December 10-12, 1997	Irvine, CA	Western Digital	Tom Hanan

* Plenary (The 10/97 meeting location assumes the 10/96 was successful in attracting attendance from Asia.)

13. Adjournment

The meeting was adjourned upon completion of all the agenda items.