

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

**Doc. No.:** X3T9.2/93-143r0

**Date:** September 22, 1993

**Project:**

**Ref. Doc.:**

**Reply to:** John Lohmeyer

To: Membership of X3T9.2

From: Lawrence J. Lamers, Secretary X3T9.2  
John B. Lohmeyer, Chair X3T9.2

Subject: Minutes of X3T9.2 Plenary Meeting #107  
Tarrytown, New York -- September 16-17, 1993

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**Agenda**

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9. Old Business
  - 9.1 SCSI Configuration AutoMatically (93-109r4) [Gardner]
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  - 9.3 Replacement of ANSI X3.80-1988, Interfaces Between Flexible Disk Cartridges and Their Host Controllers, with ISO 9315:1989.

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**X3 Secretariat, Computer and Business Equipment Manufacturers Association (CBEMA)**

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- 9.4 Revised unitized connector (93-112r1)
- 10. New Business
  - 10.1 Project Proposal for SCSI-3 Controller Commands (SCC) (93-130) [Hagerman]
  - 10.2 SCSI-2 Requests for clarification (93-115, 93-118) [Liu, Lappin]
  - 10.3 Review of new documents
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- 11. Review of Action Items
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## Results of Meeting

### 1. Opening Remarks

John Lohmeyer, the Chair, called the meeting to order at 1:00 p.m., Thursday September 16, 1993. He thanked Bob Dugan and Bryan Cook of IBM for arranging and hosting the meeting. The Chair extended a special welcome to Kate McMillan and Lynn Barra of the X3 Secretariat who were able to attend the first part of the meeting.

John said that the X3 Secretariat prefers receiving membership changes on the "X3 Subgroup Membership Forms" which 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. The forms should be mailed to the X3 Secretariat with a copy to John Lohmeyer.

As is customary, the people attending introduced themselves. A copy of the attendance list was circulated for attendance and corrections. Copies of the draft agenda and the recent document register were made available to those attending. Information on X3T9.2 and Mailing Subscription Forms were made available.

John spoke about the pending reorganization of X3T9 and its task groups. Del Shoemaker is planning to retire in January, 1994. It is expected that task group X3T9.2 will become X3T10. The transition is being worked on to be as smooth as possible, specifically transition of voting rights and fees.

### 2. Approval of Agenda

The draft agenda was approved with the following additions:

- 9.4 Revised unitized connector (93-112)

### **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 X3T9.2. 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 and the International Participation fees to maintain membership. These fees total \$600 per year.

Since the last meeting, Unitrode joined the committee bringing the membership up to 58 organizations. With the termination of three organizations (see 3.1), the X3T9.2 voting membership is now at 55 organizations. Enclosure (1) is the list of the people present at the meeting and enclosure (2) is the current X3T9.2 membership list.

#### **3.1 Roll Call of Members in Jeopardy**

The Chair said he had sent jeopardy letters to 20 people from 7 organizations for lack of meeting attendance (see 93-048r2). The letters said that their organizations had failed to attend two of the last three plenary meetings and that their membership would be terminated unless they attended this meeting. The letters also informed these people of the committee's ability to retain their membership under special circumstances in spite of their failure to attend. The organizations in jeopardy were: 3M Company, Central Data, Furukawa Electric America, Future Domain, JAE, National Semiconductor, and UNISYS.

Representatives were present from all organizations in jeopardy except: Central Data, Furukawa Electric America, and JAE. The representatives from these organizations were changed to observer status.

### **4. Approval of Minutes - July Meeting Bedford, NH (93-125r0)**

The minutes were approved as written.

### **5. Document Distribution**

John Lohmeyer said that the committee mailing had been sent to CBEMA the week of August 9, 1993 and it was distributed promptly. Members who have any problems with their mailing subscription should deal directly with Katrina Gray 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, September 29, 1993. 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 X3T9.2 meets its CBEMA document archiving requirements by including CBEMA 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 SCSI Reflector E-mail list. To be added to the SCSI Reflector, send an electronic message to: scsiadm@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. The last page contains the ANSI patent policy.

## **7. Review of Old Action Items**

- 1) Jerry Marazas will distribute information regarding IEEE commenting and balloting procedures on the SCSI Reflector. **Carry over.**
- 2) John Lohmeyer will send a letter to the X3 Secretariat on approval of expenditures for editing. **Complete.**
- 3) Larry Lamers will prepare ISO SCSI-2 and send it to the X3T9 IR. **Complete.**
- 4) Gary Stephens will draft a technical information bulletin on reporting tape partitions. **Carry over.**
- 5) Larry Lamers will post the P1285 Liaison report to the SCSI reflector. **Complete.**
- 6) John Lohmeyer will request X3T9 to substitute SPI revision 12b for SPI revision 12a. **Complete.**

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

### **8.1 Project Status Summary [Lohmeyer]**

John Lohmeyer presented the current X3T9.2 project status summary.

### **8.2 SCSI-2 Status [Lamers]**

Larry Lamers reported that rev 10L had been sent to the X3 Secretariat for the X3 letter ballot. This revision contains several editorial changes including the correct abbreviation of microseconds. During the ISO edit after public review microseconds was incorrectly abbreviated 'ms'.

Chair's note: The X3 Letter Ballot on SCSI-2 closes November 3, 1993.

Dan Davies had noted in a message on the SCSI BBS that the terms 'kilobyte' and 'megabyte' in 10.3.3.2, Medium partition page, were not specifically defined. He was concerned that some people might use 1024 and 1048576 instead of 1000 and 1000000. The working group had recommended that 1000 and 1000000 are the correct definitions. Gary Stephens volunteered to include this clarification in the TIB he is already drafting for this mode page.

### **8.3 SCSI Common Access Method (CAM) [Dallas]**

It is expected that a draft of the revised document will be available by year end. The last remaining issue, target mode operation, is nearing convergence.

#### **8.4 AT Attachment Status (ATA) [Finch]**

ATA is at public review; the public review closes November 16, 1993.

#### **8.5 ATA Extensions [Finch]**

A draft of the ATA extensions was provided at the working group meeting. A revision 1 of the document will be in the mailing. It is expected that revision 2 will incorporate several structural changes. Next meeting is scheduled for Wednesday, September 29, 1993.

#### **8.6 SCSI-3 Architecture Model (SAM) Status [Monia]**

Charles Monia reported. An editors meeting was held on Sunday afternoon. There is a consensus on SAM from the protocol editors. The next revision of SAM will incorporate the service layer interface. A presentation on documenting the queuing model was given at the working group.

#### **8.7 SCSI-3 Parallel Interface (SPI) Status [Lamers]**

X3T9 voted to forward SPI Rev 12b to X3 for first public review by a vote of 18-1-0-6. The one "no" vote was from Gene Milligan who had submitted a written ballot. Gene's ballot stated that he was opposed to forwarding any revision of SPI "which does not include revisions to accommodate the revisions approved by X3T9.2 at their last meeting."

There were sufficient "yes" votes to send SPI on to OMC for the compliance review.

Chair's note: The SPI first public review is October 29, 1993 to February 25, 1994.

#### **8.8 SCSI-3 Interlocked Protocol (SIP) Status [Lamers]**

Larry Lamers and Charles Monia have been working on getting SIP up to date.

#### **8.9 SCSI-3 Generic Packetized Protocol (GPP) Status [Stephens]**

A review of GPP was conducted within the last week. A revision 7 with SAM services will be in next mailing.

#### **8.10 SCSI-3 Serial Bus Protocol (SBP) Status [Marazas]**

A tutorial on SBP was held on Tuesday afternoon. Revision 14 incorporated the SAM services and improved the document to a point where it is recommended for acceptance as the working draft.

Jerry Marazas has spoken with Steve Diamond on the voting procedure for P1394. Membership in IEEE is not required to part of the balloting body. However, each individual need to contact IEEE and request participation in the balloting. Comments may be submitted by any person, however those submitted by non-members of IEEE will not have official responses.

**8.11 SCSI-3 Fiber Channel Protocol (FCP) Status [Snively]**

Bob Snively reported that a tutorial on FCP was held Tuesday evening. Several editorial changes resulted from those discussions. Work is being done to incorporate the SAM service interface. The removal of the link feature, and COPY command was considered. Bob stated he has conceded on link and will incorporate it in the next revision.

Wednesday evening, the FCA group reviewed the FCSI profile documents on Fibre Channel SCSI for workstation applications. The profiles are intended to foster interoperability among Fibre Channel devices.

Concerns had been expressed about features that were excluded in profile. Particularly some people present had objected to deeming an otherwise compliant implementation as non-compliant simply because it implemented a "prohibited" feature. The justification for this position was that companies buying to the profile did not want to pay for the banned feature or risk interoperation issues from a more complex implementation.

**8.12 SCSI-3 Primary Commands (SPC) Status [Weber]**

Ralph Weber reported that the revised COPY command proposal has been submitted to the working group which produced a minor change related to ACA handling.

Very little progress has been made on the SPC document due to the Editor's other commitments. A proposal to revise the SCSI-2 rev 10K definition of COPY has been prepared based on the several discussions of mapping SCSI-3 device identifiers and LUNs into the COPY command parameter data. The proposal is document 93-145. That document has been revised based on comments raised at the September Working Group and will be presented to the plenary group.

**8.13 SCSI-3 Block Commands (SBC) [Mellinger]**

John Lohmeyer noted that Dennis Mellinger is unable to continue as editor on SBC. He asked for volunteers to perform this valuable and prestigious service.

**8.14 SCSI-3 Stream Commands (SSC) [Stephens]**

Gary reported that a first cut of the SCSI-3 Stream Commands will be available at the next meeting.

**8.15 SCSI-3 Graphics Commands (SGC) [Stephens]**

Gary reported that a first cut of the SCSI-3 Graphics Commands will be available at the next meeting.

**8.16 SCSI-3 Medium Changer Commands (SMC) [Stephens]**

Gary reported that a first cut of the SCSI-3 Medium Changer Commands was in the last mailing.

**8.17 Directly-Addressable Device Interface (DADI) []**

No report.

**8.18 SCSI Common Access Method -2 (CAM-2) (93-082) [Dallas]**

Action on CAM-2 has been delayed to focus on getting CAM-1 finished.

**8.19 RAID Study Group (93-120, 129, 141) [Penokie]**

George Penokie reported. See X3T9.2/93-120, 129, 141 for details. The RAID model (93-003) is at revision 7. Progress is being made.

**9. Old Business**

**9.1 SCSI Configuration AutoMatically (93-109r4) [Gardner]**

Ed Gardner reported that revision 4 was discussed at the working group resulting in several editorial changes. One significant change was the reassertion of SEL at the end of the protocol to delineate the SCAM 'phase'. This allows a bus tester to more easily distinguish SCAM protocol from the STATUS phase. The type code was expanded to two bytes and now contains the default/preferred ID. This master dominance type code was similarly expanded to two bytes. The action/ID codes were expanded to two quintets to make all codes the same length. A 'Locate off' code was also defined.

Bill Galloway proposed adding a bit to the second type byte to indicate that the default/preferred ID is valid.

Jeff Stai moved and Ed Gardner seconded that SCAM revision 4 as amended be accepted by X3T9.2 and that the chair be authorized to submit a public review comment on behalf of X3T9.2 recommending that SCAM be incorporated in SPI as a normative annex.

The motion carried 26:3. Skip Jones stated his no vote was because the document does not appear to be stable and motions shouldn't be taken for the expediency of a trade show.

**9.2 Queuing Model Review (92-141) [Penokie]**

George Penokie moved Jeff Williams seconded that 92-141 revision 7 as amended plus a "wrapper" be incorporated in SAM as an informative annex.

The wrapper, to be written by the SAM Editor, is to explain the relationship of the annex to the body of the document.

There was considerable discussion over the benefits and risks of including the queuing model document. The proponents wanted to make sure the subtleties of the queuing model are not lost in the translation to SAM terminology. Those opposed argued against documenting the same information twice.

The motion carried 16 in favor and 12 opposed.

### **9.3 Replacement of ANSI X3.80-1988, Interfaces Between Flexible Disk Cartridges and Their Host Controllers, with ISO 9315:1989.**

In April '93, X3T9.2 voted to recommend that simultaneous withdrawal of X3.80-1988 and adoption of ISO 9315:1989 as an ANSI standard. X3T9 accepted this recommendation and voted to make the same recommendation to X3. The public review period begins October 15, 1993 and closes February 13, 1994.

### **9.4 Revised unitized connector (93-112r1)**

The 93-112r1 document went further than some people wanted to go in "blessing" the latest SFF unitized connector. Jim McGrath objected that 93-112r1 included some details that had not been fully discussed in SFF. No one wanted a repeat of the 92-139r1 problem where the document contained errors and was inconsistent with the SFF document. Opinions included:

- a) X3T9.2 should not document any aspect of the unitized connector and should merely reference the SFF document
- b) X3T9.2 should only document the pin numbers and signal names
- c) X3T9.2 should fully document the unitized connector.

The topic was remanded to the working group.

## **10. New Business**

### **10.1 Project Proposal for SCSI-3 Controller Commands (SCC) (93-130) [Hagerman]**

Doug Hagerman presented a project proposal for a new device type (RAIDs) that will contain a command set for these devices. The RAID working group is drafting a document as a proposal for this project should it get approved.

Doug Hagerman moved and George Penokie seconded that the project proposal (X3T9.2/93-130) be forward to X3T9 for further processing.

It was suggested that the word controller be changed to compound. The intended application is for complex subsystems including tape and optical devices. It was agreed to leave the name in the project proposal alone. The document's name does not have to match the project proposal.

The motion barely passed unanimously 28:0:0:27.

### **10.2 SCSI-2 Requests for clarification (93-115, 93-118) [Liu, Lappin]**

Robert Liu had noticed that the SCSI-2 Rev 10k document contains an obvious error in table 161. The values for Open and Head Load are both P 0 0 0. He requested a clarification in document 93-115.

John Lohmeyer researched the issue and determined that the error in the table occurred in the Rev 10d document. Previously, the value for Head Load was P 0 1 1. This was most likely a typo during the conversion of the document from WordStar (tm) to Word Perfect (tm).

Edward Lappin noticed that units for the various disconnect/reconnect times in SCSI-2 were changed from "microseconds" in Rev 10g and 10h to "ms" in Rev 10k. This is an error introduced during the ISO editing.



### 10.3 Review of new documents

#### X3T9.2/93-144 Multi-media commands [Lamers]

Larry Lamers presented command structures for 16-byte CDBs that are applicable to multi-media devices. The intent of the presentation is to justify the location of the control byte.

Larry Lamers moved and Bob Snively seconded that the control field be moved to a location in byte 1 for 16-byte CDBs instead of the last byte of the CDB. The motion failed 1:18.

#### X3T9.2/93-145r1 COPY command definition for SCSI-3 [Weber]

Ralph presented the latest version of the COPY command. The consensus was that this be incorporated into SPC.

### 10.4 Acceptance of Working Drafts

Larry Lamers moved and Eric Oetting seconded that SBP revision 14 be accepted as the current committee working draft for project 992D. The motion passed 28:0.

Charles Monia moved and Larry Lamers seconded that SAM revision 11 as modified by today's motion be accepted as the current committee working draft for project 994D. The motion passed 28:0.

### 10.5 Forwarding Working Drafts

John Lohmeyer said that he had been approached to issue letter ballots on forwarding several of the protocol documents and SAM. Several folks spoke in support of conducting a letter ballot for the documents. It appears that SAM, SBP, FCP, and GPP could all be ready by the mailing deadline. SIP is close and may also be ready.

Since the documents will all be in the next mailing, the plan is to just mail the ballots to the Principal members referencing the mailing for the documents. Larry agreed to mail the documents directly to any Principal member who does not subscribe to the mailings. Copies of the letter ballots will also be included in the mailing.

## 11. Review of Action Items

- 1) Jerry Marazas will distribute information regarding IEEE commenting and balloting procedures on the SCSI Reflector. **Completed the week following the meeting.**
- 2) Gary Stephens will draft a Technical Information Bulletin on reporting tape partitions. **Completed the week following the meeting.**
- 3) John Lohmeyer will take the project proposal for the SCSI-3 Controller Commands to X3T9.

## 12. Meeting Schedule

The next plenary meeting of X3T9.2 will be November 11-12, 1993 at the Red Lion Hotel (Tel: 719-576-8900 Fax: 719-576-4450) in Colorado Springs, Colorado, hosted by NCR Corporation. The room rates are \$74.00, plus tax. The reservation deadline for these rates is October 8, 1993. The X3T9.2 plenary meeting will begin at 1:00 pm on Thursday and at 8:30 am on Friday.

The meeting schedule for the week of November 9-13 in Colorado Springs is:

Day & Date	Meeting	Times
Sunday 11/7	General Editing Session	1:30p - 5:00p (*)
Monday 11/8	Small Form Factor Committee	9:00a - 1:00p
	ATA Working Group	2:00p - 8:00p (*)
	CAM Working Group	9:00a - 5:00p (*)
	FC-Arbitrated Loop	5:00p - 8:00p
	P1394 Connector	1:00p - 6:00p
Tuesday 11/9	SSA UIG	9:00a - 1:00p
	X3T9.7 (SSA)	2:00p - 5:00p
	SAM/SBP/FCP/SIP/GPP ballot review	9:00p - 8:00p (*)
	Fibre Channel Working Group	9:00a - 5:00p
	FC-0 Working Group	9:00p - 5:00p
Wednesday 11/10	SCSI Working Group	9:00a - 5:00p (*)
	IEEE P1285	5:00p - 8:00p
	Fibre Channel Working Group	9:00p - 5:00p
	FC-LE Edit	5:00p - 8:00p
Thursday 11/11	RAID Study Group	9:00p - 12:00p (*)
	X3T9.2 Plenary Meeting	1:00p - 8:00p (*)
	Fibre Channel WG (Fabric)	9:00a - 5:00p
	IPI-3	9:00a - 8:00p
Friday 11/12	X3T9.2 Plenary Meeting	8:30a - 2:00p (*)
	IPI-3	8:00a - 2:00p

(\*) - Indicates an X3T9.2-related meeting. All others are shown for reference only and may be changed by other groups without notice.

Several other X3T9.2 events are also planned:

Event	Day/Date	Time	Location/contact
ATA Working Group	9/29/93	9:00a	Milpitas, CA
ATA Working Group	10/27/93	9:00a	Milpitas, CA
RAID Study Group	10/13/93	8:00a	West Palm Beach, FL

For more information about X3T9.2 activities, please contact the following people:

Activity	Contact	Telephone/Email
CAM Working Group	Bill Dallas	(603) 881-2508 dallas@wasted.enet.dec.com
ATA Working Group	Steve Finch	(714) 573-6808 5723283@mcimail.com
GPP Working Group	Gary Stephens	(602) 799-2246 gstephen@tucvm2.vnet.ibm.com
RAID Study Group	George Penokie	(507) 253-5208 gop@rchvmp3.vnet.ibm.com
SAM Working Group	Charles Monia	(508) 841-6757 monia@starch.enet.dec.com
SBP Working Group	Jerry Marazas	(407) 982-4423 marazas@bcrvmpc2.vnet.ibm.com
SPI Contact	Larry Lamers	(408) 432-3889 71540.2756@compuserve.com
SIP Contact	Larry Lamers	(408) 432-3889 71540.2756@compuserve.com
SCAM Contact	Ed Gardner	(719) 528-2247 gardner@ssag.enet.dec.com
Other Activities	John Lohmeyer	(719) 573-3362 john.lohmeyer@ftcollinsco.ncr.com

The long-term X3T9.2 meeting week schedule is:

Date	Location	Host/Comments
Nov 8-12, 1993	Colo Spgs, CO	NCR
Jan 10-14, 1994	San Diego, CA	Vitro
Mar 14-18, 1994	Newport Beach, CA	Emulex
May 16-20, 1994	Harrisburg, PA	AMP
Jul 18-22, 1994	Manchester, NH	DEC
Sep 12-16, 1994	Toronto, Canada	Canstar
Nov 7-11, 1994	Southern California	Western Digital

### 12.1 Authorization of Working Group Meetings

John noted that the working group meetings are required to operate under the same voting procedures as does X3T9.2 (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.

Steve Finch moved and Skip Jones seconded that X3T9.2 authorize the X3T9.2-related meetings and events in the list under agenda item 12. The motion passed unanimously.

### 13. Liaison Reports

#### 13.1 ISO [Milligan]

Gene Milligan, the X3T9 International Representative, was not able to attend, but he provided the following electronic report:

ISO Report  
September 1993

The unconfirmed minutes of the Working Group 4 Den Haag meeting were submitted to the secretariat. They have now been distributed on a default ballot.

SCSI-2 9316-1 Revision 10K and errata pages covering the micro second abbreviation have been submitted for DIS letter ballot.

A plethora of New Work Items are being balloted by JTC 1. The current round of ballots is addressing various FDDI Conformance and FDDI-II projects.

#### 13.2 X3T9.7 (SSA) Liaison Report [Scheible]

The Serial Storage Protocol (SSP) project proposal has been forwarded to X3T9 for consideration at their October meeting. For information regarding the SSA project, see the X3T9.7 minutes (which were distributed to the SCSI Reflector).

#### 13.3 Fibre Channel [Allan]

Rev 4.1 was forwarded by X3T9.3 at the August plenary, and is presently at X3T9 letter ballot.

At the August WG a tutorial was presented on the Name Server by Beth Vanderbeck and Steve Wilson.

At the September WG, tutorials were presented on FC-SB (Block Multiplexer/ESCON channels) by Rich Taborek and on FC-XS by Kumar Malavalli. Kurt Chan presented several comments on Rev 4.1 which

caused a great deal of discussion. One item may require a technical addition to 4.1, viz adding a VU capability of defining versions (a la SCSI). An icon for Fibre Channel bulkhead and cable identification was suggested by Bob Snively.

#### **13.4 Small Form Factor Industry Group [Allan]**

The implementation of a fax back capability has been tested by various members and will be announced by press releases in the coming weeks. It is hoped to be a co-ordinated release between several vendors.

The new voting alternative of F(orward) caused confusion. The only options on submitted proposals are F, Y and N whereas on projects, members can vote two actions at once e.g. Yes to Publish and F to Forward.

Bill Ham introduced the wiring requirements from 50-conductor SCSI cables to 68-pin connectors. SFF SCSI (with power) to a cable will also be investigated.

David White presented an alternative figure for 2 1/2" form factor dimensions which used one side of the drive as the datum. Questions were raised on whether warpage had been allowed for in the dimensions. Larry Lamers presented a list of concerns that the dimensions proposed were too tight for volume production.

An error was reported by Larry Lamers in the dimensions of the 1.8" form factor figure, apparently caused by misinterpretation of a PCMCIA figure.

John Scheible presented the initial thoughts on a unitized connector for SSA, and Bill Ham described the decisions made by P1394. Jim McGrath expressed concern about the height of the connectors and that neither group had used the same relative position for power and features. A SSWG has been scheduled for Sept 28 to address connector locations on all serial interfaces.

#### **13.5 IEEE P1394 [Marazas]**

Jerry Marazas reported 6.3 is the current version. 6.4 is in preparation. December is the target to complete the technical work, with expectation that the document will be sent to its sponsor organization in January '94. The November meetings have been canceled due to Comdex the following week. A meeting is planned for December during the X3T9 meeting week. The device connector issue continues to be worked on.

#### **13.6 IT8 [Lohmeyer]**

No report.

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

John Lohmeyer stated that Martin Freeman has planned a co-located meeting with the November X3T9.2 meetings for Wednesday evening. A draft document will be available.

**13.8 PCMCIA Report**

No report.

**13.9 AIIM C21 [Podio]**

AIIM C21 is working on a testing command set. John Lohmeyer requested that interested parties review the document that was distributed in the mailing.

**14. Adjournment**

The meeting was adjourned at 6:15 p.m. on Thursday September 16, 1993.

## Meeting Attenders -- Enclosure (1)

Name	S	Organization	Electronic Mail Address
Mr. Alan R. Olson	P	3M Company	
Mr. Rick Heidick	A	3M Company	
Mr. Norm Harris	P	Adaptec, Inc.	nharris@adaptec.com
Mr. David Skinner	P	Advanced Micro Devices	skinner@brahms.amd.com
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## Minutes of X3T9.2 Plenary Meeting #107 in Tarrytown, NY

X3T9.2/93-143r0

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Minutes of X3T9.2 Plenary Meeting #107 in Tarrytown, NY

X3T9.2/93-143r0

Sep 22, 1993 - X3T9.2 Document Register - Enclosure (3)

X3T9.2/93-001R0 Date: 3/12/93 Author: J. Lohmeyer [3/15/93]  
 Desc: X3T9.2 Annual Report  
 Res:

X3T9.2/93-002R0 Date: 1/6/93 Author: G. Penokie [3/15/93]  
 Desc: Summary of SCSI Disk Array Items submitted to the RAID Study Group  
 Res:

X3T9.2/93-003R0 Date: 2/13/93 Author: G. Penokie []  
 Desc: SCSI Disk Array Model  
 Res:

X3T9.2/93-003R1 Date: 2/13/93 Author: G. Penokie []  
 Desc: SCSI Disk Array Model  
 Res:

X3T9.2/93-003R3 Date: 3/21/93 Author: G. Penokie [3/15/93]  
 Desc: SCSI Disk Array Model  
 Res:

X3T9.2/93-003R4 Date: 4/15/93 Author: G. Penokie []  
 Desc: SCSI Disk Array Model  
 Res:

X3T9.2/93-003R5 Date: 4/15/93 Author: G. Penokie [6/15/93]  
 Desc: SCSI Disk Array Model  
 Res:

X3T9.2/93-003R6 Date: 6/13/93 Author: G. Penokie []  
 Desc: SCSI Disk Array Model  
 Res:

X3T9.2/93-003R7 Date: 7/6/93 Author: G. Penokie [8/15/93]  
 Desc: SCSI Disk Array Model  
 Res:

X3T9.2/93-003R8 Date: 8/5/93 Author: G. Penokie []  
 Desc: SCSI Disk Array Model  
 Res:

X3T9.2/93-003R9 Date: 8/28/93 Author: G. Penokie [10/15/93]  
 Desc: SCSI Disk Array Model  
 Res:

X3T9.2/93-004R0 Date: 1/11/93 Author: S. Finch [3/15/93]  
 Desc: Minutes of ATA Extensions Working Group - Jan '93  
 Res:

X3T9.2/93-005R0 Date: Author: G. Penokie [3/15/93]  
 Desc: Minutes of RAID Study Group - Jan '93  
 Res:

X3T9.2/93-006R0 Date: 1/12/93 Author: J. Lohmeyer [3/15/93]  
 Desc: Minutes of X3T9.2 General Working Group - Jan '93  
 Res:

X3T9.2/93-007R0 Date: 1/11/93 Author: J. McGrath [3/15/93]  
 Desc: Support of Local Bus in ATA  
 Res:

X3T9.2/93-008R0 Date: 10/21/92 Author: D. Kummer [3/15/93]  
 Desc: Local Bus IDE Modes  
 Res:

X3T9.2/93-009R0 Date: Author: S. Finch []  
 Desc: ATA Extensions draft document  
 Res:

X3T9.2/93-010R0 Date: 1/11/93 Author: R. Roberts [3/15/93]  
 Desc: "What does the Customer Want???" presentation  
 Res:

X3T9.2/93-011R0 Date: 1/4/93 Author: S. Todd [3/15/93]  
 Desc: Dual Array Controller issues  
 Res:

X3T9.2/93-012R0 Date: 1/5/93 Author: G. Houlder [3/15/93]  
 Desc: Clarification of TTD, CIOP  
 Res:

X3T9.2/93-013R0 Date: 1/4/93 Author: P. Entzel [3/15/93]  
 Desc: Request for two SCSI-3 (SSC) Density Codes  
 Res: Gary Stephens to assign codes

X3T9.2/93-014R0 Date: 1/12/93 Author: G. Marazas [3/15/93]  
 Desc: Serial Bus Protocol Fundamentals  
 Res:

X3T9.2/93-015R0 Date: Author: B. Dallas [3/15/93]  
 Desc: Minutes of CAM-2 Study Group - Jan '93  
 Res:

X3T9.2/93-016R0 Date: 1/21/93 Author: R. Weber [3/15/93]  
 Desc: Why SCSI-3 needs ABORT (all initiator tasks)  
 Res:

X3T9.2/93-017R0 Date: 1/21/93 Author: J. Lohmeyer [3/15/93]  
 Desc: X3T9.2 Meeting Schedule  
 Res:

X3T9.2/93-018R0 Date: 1/25/93 Author: S. Finch [3/15/93]  
 Desc: ATA Extensions-Specifications of Electrical Characteristics  
 Res:

X3T9.2/93-019R0 Date: 2/15/93 Author: L. Lamers [3/15/93]  
 Desc: X3T9.2 Procedure on Electronic Notification  
 Res:

X3T9.2/93-020R0 Date: 2/15/93 Author: J. Williams [3/15/93]  
 Desc: New Optical Memory Density Codes  
 Res:

X3T9.2/93-020R1 Date: 2/22/93 Author: J. Williams [3/15/93]  
 Desc: New Optical Memory Density Codes  
 Res: Accepted for SCSI-3 in 4/93.

X3T9.2/93-021R0 Date: 2/11/93 Author: R. Jesup [3/15/93]  
 Desc: Response to Public Review Comment on CAM  
 Res:

X3T9.2/93-022R0 Date: 1/28/93 Author: T. Hanan [3/15/93]  
 Desc: Minutes of SFF SSWG on Local Bus ATA  
 Res:

X3T9.2/93-023R0 Date: 2/8/93 Author: L. Barnes [3/15/93]  
 Desc: Report on PCMCIA SCSI  
 Res:

X3T9.2/93-024R0 Date: 2/8/93 Author: J. Scheible [3/15/93]  
 Desc: SSA Liason Report  
 Res:

X3T9.2/93-025R0 Date: 2/10/93 Author: V. Novak [3/15/93]  
 Desc: Status of FCP Revision 003  
 Res:

X3T9.2/93-026R0 Date: 2/15/93 Author: D. Pak [3/15/93]  
 Desc: P1285 Liason Report  
 Res:

X3T9.2/93-027R0 Date: 1/28/93 Author: G. Leonhardt [3/15/93]  
 Desc: Explanation of No Vote on ATA  
 Res:

X3T9.2/93-028R0 Date: 2/12/93 Author: J. Chen [3/15/93]  
 Desc: Comment on ATA letter ballot  
 Res:

X3T9.2/93-029R0 Date: 2/15/93 Author: Lamers/Penokie []  
 Desc: Minutes of RAID Study Group - Feb '93  
 Res:

X3T9.2/93-029R1 Date: 2/25/93 Author: Lamers/Penokie [3/15/93]  
 Desc: Minutes of RAID Study Group - Feb '93  
 Res:

X3T9.2/93-030R0 Date: 2/12/93 Author: B. Dallas [3/15/93]  
 Desc: SCSI RAID Problems Presented to the Software Developer  
 Res:

X3T9.2/93-031R1 Date: 2/16/93 Author: B. Spence [3/15/93]  
 Desc: Corrections and Additions in SPI Timing  
 Res:

X3T9.2/93-032R0 Date: 2/16/93 Author: G. Penokie []  
 Desc: Number of Blocks Field Size Limitation  
 Res:

X3T9.2/93-032R1 Date: 3/22/93 Author: G. Penokie [3/15/93]  
 Desc: Number of Blocks Field Size Limitation  
 Res: Accepted for SCSI-3 in 4/93.

X3T9.2/93-033R0 Date: 2/16/93 Author: Lamers/Lohmeyer [3/15/93]  
 Desc: Minutes of X3T9.2 Plenary Meeting #104  
 Res:

X3T9.2/93-034R0 Date: 2/17/93 Author: J. Lohmeyer [3/15/93]  
 Desc: SDP Message Clarification  
 Res:

X3T9.2/93-035R0 Date: 2/21/93 Author: S. Smyers [3/15/93]  
 Desc: Minutes of SBP Working Group - Feb '93  
 Res:

X3T9.2/93-036R0 Date: 2/17/93 Author: T. Motoyama [3/15/93]  
 Desc: Scanner Window Descriptor Bytes Proposal  
 Res:

X3T9.2/93-036R1 Date: 7/22/93 Author: T. Motoyama [8/15/93]  
 Desc: Scanner Window Descriptor Bytes Proposal  
 Res:

X3T9.2/93-037R0 Date: 2/27/93 Author: G. Penokie []  
 Desc: When to issue SDTR after WDTR  
 Res:

X3T9.2/93-037R1 Date: 3/22/93 Author: G. Penokie [3/15/93]  
 Desc: When to issue SDTR after WDTR  
 Res:

X3T9.2/93-037R2 Date: 5/5/93 Author: G. Penokie [6/15/93]  
 Desc: When to issue SDTR after WDTR  
 Res:

X3T9.2/93-037R3 Date: 6/13/93 Author: G. Penokie [8/15/93]  
 Desc: When to issue SDTR after WDTR  
 Res:

Minutes of X3T9.2 Plenary Meeting #107 in Tarrytown, NY

X3T9.2/93-143r0

X3T9.2/93-038R0 Date: 3/20/93 Author: R. Weber [3/15/93]  
Desc: Third-party Commands in SCSI-3 SPC  
Res:

X3T9.2/93-038R1 Date: 4/15/93 Author: R. Weber [6/15/93]  
Desc: Third-party Commands in SCSI-3 SPC  
Res:

X3T9.2/93-039R0 Date: 3/16/93 Author: Lamers/Lohmeyer [3/15/93]  
Desc: Minutes of X3T9.2 General Working Group - Mar '93  
Res:

X3T9.2/93-039R1 Date: 3/25/93 Author: Lamers/Lohmeyer [5/15/93]  
Desc: Minutes of X3T9.2 General Working Group - Mar '93  
Res:

X3T9.2/93-040R0 Date: 3/2/93 Author: E. Gardner [3/15/93]  
Desc: Minutes of SBP Working Group - Mar '93  
Res:

X3T9.2/93-041R0 Date: Author: G. Houlder [3/15/93]  
Desc: SCSI-3 Changes for Dual Port Feature  
Res:

X3T9.2/93-041R1 Date: Author: G. Houlder [3/15/93]  
Desc: SCSI-3 Changes for Dual Port Feature  
Res:

X3T9.2/93-041R2 Date: 4/20/93 Author: G. Houlder [6/15/93]  
Desc: SCSI-3 Changes for Dual Port Feature  
Res: Accepted for SCSI-3 in 4/93.

X3T9.2/93-042R0 Date: 3/17/93 Author: E. Gardner []  
Desc: SBP Command Block CDB Alignment  
Res:

X3T9.2/93-042R1 Date: 3/17/93 Author: E. Gardner [3/15/93]  
Desc: SBP Command Block CDB Alignment  
Res:

X3T9.2/93-043R0 Date: 3/17/93 Author: N. Hayes [3/15/93]  
Desc: SQRL SCSI Queued Reference List  
Res:

X3T9.2/93-044R0 Date: 3/18/93 Author: R. Roberts [3/15/93]  
Desc: Presentation on BASE-1  
Res:

X3T9.2/93-045R0 Date: 3/18/93 Author: S. Finch [3/15/93]  
Desc: Minutes of the Disk Drive Working Group - Mar '93  
Res:

X3T9.2/93-046R0 Date: 2/24/93 Author: T. Hanan [3/15/93]  
Desc: Minutes of SFF SSWG on Local Bus ATA  
Res:

X3T9.2/93-047R0 Date: 3/19/93 Author: J. Lohmeyer [3/15/93]  
Desc: Minutes of CAM Working Group - Mar '93  
Res:

X3T9.2/93-048R0 Date: 3/21/93 Author: J. Lohmeyer [3/15/93]  
Desc: Jeopardy Letter for 1993  
Res:

X3T9.2/93-048R1 Date: 6/17/93 Author: J. Lohmeyer [8/15/93]  
Desc: Jeopardy Letter for 1993  
Res:

X3T9.2/93-048R2 Date: 7/30/93 Author: J. Lohmeyer [8/15/93]  
Desc: Jeopardy Letter for 1993  
Res:

X3T9.2/93-049R0 Date: 3/22/93 Author: L. Lamers [3/15/93]  
Desc: Minutes of the RAID Study Group - Mar '93  
Res:

X3T9.2/93-050R0 Date: 3/22/93 Author: Finch/Allan [3/15/93]  
Desc: Project Proposal for ATA-2  
Res:

X3T9.2/93-051R0 Date: 1/6/93 Author: I. Larsen [3/15/93]  
Desc: Asynch transfer question & reply  
Res:

X3T9.2/93-052R0 Date: 1/14/93 Author: K. Gingerich [3/15/93]  
Desc: Suggested Changes to Fig 8 in SPI  
Res:

X3T9.2/93-053R0 Date: 1/31/93 Author: J. Cohen [3/15/93]  
Desc: Quotation on SCSI-2 edit  
Res:

X3T9.2/93-054R0 Date: 1/31/93 Author: J. Cohen [3/15/93]  
Desc: Quotation on ATA edit  
Res:

X3T9.2/93-055R0 Date: 1/31/93 Author: J. Cohen [3/15/93]  
Desc: Quotation on CAM edit  
Res:

X3T9.2/93-056R0 Date: 3/12/93 Author: C. Wozniak [3/15/93]  
Desc: Copyright fo Single Connector Attachment Document  
Res:

X3T9.2/93-057R0 Date: 11/9/92 Author: R. Snively [3/15/93]  
 Desc: Single Connector Attachment for Small SCSI Disk Drives  
 Res:

X3T9.2/93-058R0 Date: 1/28/93 Author: R. Whalen [3/15/93]  
 Desc: SIMport Specification  
 Res:

X3T9.2/93-059R0 Date: 4/21/93 Author: L. Lamers [6/15/93]  
 Desc: ATA Rev 4 Errata  
 Res:

X3T9.2/93-060R0 Date: 4/22/93 Author: E. Gardner [6/15/93]  
 Desc: Minutes of SBP Working Group - Apr '93  
 Res:

X3T9.2/93-061R0 Date: 4/22/93 Author: J. Scheible [6/15/93]  
 Desc: Project Proposal for SCSI-3 Serial Storage Protocol (SSP)  
 Res:

X3T9.2/93-061R1 Date: 8/19/93 Author: J. Scheible [10/15/93]  
 Desc: Project Proposal for SCSI-3 Serial Storage Protocol (SSP)  
 Res:

X3T9.2/93-062R0 Date: 3/29/93 Author: S. Washburn [10/15/93]  
 Desc: New Code for QIC 555 Tape - mini cartridge  
 Res:

X3T9.2/93-063R0 Date: 3/29/93 Author: R. Weber []  
 Desc: Disposition of COPY Function Codes in 90-048r7  
 Res:

X3T9.2/93-063R1 Date: 4/20/93 Author: R. Weber [6/15/93]  
 Desc: Disposition of COPY Function Codes in 90-048r7  
 Res: Accepted for SCSI-3 in 4/93

X3T9.2/93-064R0 Date: 3/30/93 Author: R. Weber [6/15/93]  
 Desc: Disposition of ASC/ASCQ tag number in X3T9.2/92-141R5  
 Res:

X3T9.2/93-065R0 Date: 4/19/93 Author: J. Frazier [6/15/93]  
 Desc: Clearing an ACA in SIP  
 Res:

X3T9.2/93-066R0 Date: 4/9/93 Author: R. Weber [6/15/93]  
 Desc: ASC ASCQ Sense Codes for SCSI-3  
 Res:

X3T9.2/93-067R0 Date: 3/22/93 Author: Lynn Barra [6/15/93]  
 Desc: Follow-Up to X3LB 2189  
 Res: CAM-2 LB results 21-0-1-9; 990D

X3T9.2/93-068R0 Date: 3/22/93 Author: Lynn Barra [6/15/93]  
 Desc: Follow-up to X3LB 2190  
 Res:

X3T9.2/93-069R0 Date: 3/22/93 Author: Lynn Barra [6/15/93]  
 Desc: Follow-up to X3LB 2191  
 Res:

X3T9.2/93-070R0 Date: 4/13/93 Author: G. Anjargoli [6/15/93]  
 Desc: Revision to Description of Partion Size in SCSI-2  
 Res:

X3T9.2/93-071R0 Date: 4/16/93 Author: G. Penokie []  
 Desc: Isochronous Queue Tagsk  
 Res:

X3T9.2/93-071R1 Date: 5/5/93 Author: G. Penokie [6/15/93]  
 Desc: Isochronous Queue Tagsk  
 Res:

X3T9.2/93-071R2 Date: 6/13/93 Author: G. Penokie [8/15/93]  
 Desc: Isochronous Queue Tag  
 Res:

X3T9.2/93-072R0 Date: 4/21/93 Author: Lamers/Lohmeyer [6/15/93]  
 Desc: Minutes of X3T9.2 Plenary Meeting #105  
 Res:

X3T9.2/93-072R1 Date: 7/23/93 Author: Lamers/Lohmeyer [6/15/93]  
 Desc: Minutes of X3T9.2 Plenary Meeting #105  
 Res: changed Motoyama to Satwinder Mangat

X3T9.2/93-073R0 Date: 4/13/93 Author: J. Scheible [6/15/93]  
 Desc: SSA Liason Report  
 Res:

X3T9.2/93-074R0 Date: 4/19/93 Author: J. Lohmeyer [6/15/93]  
 Desc: Letter to PCMCIA RE Schedules  
 Res:

X3T9.2/93-075R0 Date: 4/19/93 Author: Penokie/Lamers [6/15/93]  
 Desc: Minutes of the X3T9.2 RAID Study Group - Apr '93  
 Res:

X3T9.2/93-076R0 Date: 5/20/93 Author: Lamers/Penokie [6/15/93]  
 Desc: Minutes of RAID Study Group - May '93  
 Res:

X3T9.2/93-077R0 Date: 4/20/93 Author: G. Milligan [6/15/93]  
 Desc: Conflict between CORRECT and DCR bits  
 Res:

X3T9.2/93-078R0 Date: 4/20/93 Author: J. Lohmeyer [6/15/93]  
 Desc: Letter to Authorize Edit Expenditures  
 Res:

X3T9.2/93-079R0 Date: 4/19/93 Author: D. Pak [6/15/93]  
 Desc: P1285 Liaison Report for April 1993  
 Res:

X3T9.2/93-080R0 Date: 4/13/93 Author: R. Snively [6/15/93]  
 Desc: SCSI-3 FCP Change Report  
 Res:

X3T9.2/93-081R0 Date: 4/22/93 Author: J. Stai [6/15/93]  
 Desc: Comments on SPI Rev 12  
 Res:

X3T9.2/93-082R0 Date: 4/23/93 Author: B. Dallas [6/15/93]  
 Desc: Minutes of CAM Working Group - Apr '93  
 Res:

X3T9.2/93-083R0 Date: 4/26/93 Author: D. Allan [6/15/93]  
 Desc: Information on Email  
 Res:

X3T9.2/93-084R0 Date: 4/26/93 Author: S. Smyers [6/15/93]  
 Desc: Minutes of SBP Working Group - Apr '93  
 Res:

X3T9.2/93-085R0 Date: 4/28/93 Author: J. Lohmeyer [6/15/93]  
 Desc: Letter to George Anjargoli on Tape Issues  
 Res:

X3T9.2/93-086R0 Date: 4/30/93 Author: L. Lamers [6/15/93]  
 Desc: Minutes of ATA Working Group - Apr '93  
 Res:

X3T9.2/93-087R0 Date: 5/3/93 Author: G. Watson [6/15/93]  
 Desc: RAID Issues from TRIMM's Perspective  
 Res:

X3T9.2/93-088R0 Date: 5/10/93 Author: E. Gardner [6/15/93]  
 Desc: Dealing with SBP Target Resets  
 Res:

X3T9.2/93-089R0 Date: 5/14/93 Author: N. Harris [6/15/93]  
 Desc: SCSI-3 Wide Bus Parity Handling Considerations  
 Res:

X3T9.2/93-090R0 Date: 5/17/93 Author: B. Spence [6/15/93]  
 Desc: Proposal for Recouping Seemingly Lost Ground  
 Res:

X3T9.2/93-091R0 Date: 5/18/93 Author: D. Allan [6/15/93]  
 Desc: 1994 Calendar  
 Res:

X3T9.2/93-092R0 Date: 5/18/93 Author: Lamers/Lohmeyer [6/15/93]  
 Desc: Minutes of X3T9.2 General Working Group - May '93  
 Res:

X3T9.2/93-093R0 Date: 5/4/93 Author: R. Bellino [6/15/93]  
 Desc: Cable for PCMCIA-SCSI Applications  
 Res:

X3T9.2/93-094R0 Date: 5/12/93 Author: G. Frazier [6/15/93]  
 Desc: Setup and hold timings in SPI  
 Res:

X3T9.2/93-095R0 Date: 5/19/93 Author: J. McGrath [6/15/93]  
 Desc: Son of SPASTIC  
 Res:

X3T9.2/93-096R0 Date: 5/18/93 Author: M. Freeman [6/15/93]  
 Desc: Liason Report on P1285  
 Res:

X3T9.2/93-097R0 Date: 5/17/93 Author: R. Snively [6/15/93]  
 Desc: Presentation on FCP rev 4 changes  
 Res:

X3T9.2/93-098R0 Date: 5/17/93 Author: S. Smyers [6/15/93]  
 Desc: Minutes of SBP Working Group - May 6-7, '93  
 Res:

X3T9.2/93-099R0 Date: 5/20/93 Author: S. Smyers [6/15/93]  
 Desc: Minutes of SBP Working Group - May 20, '93  
 Res:

X3T9.2/93-100R0 Date: Author: L. Lamers [6/15/93]  
 Desc: Minutes of Disk Drive Working Group - May '93  
 Res:

X3T9.2/93-101R0 Date: 5/26/93 Author: J. Lohmeyer [6/15/93]  
 Desc: X3T9 Letter Ballot comments on SPI  
 Res:

X3T9.2/93-102R0 Date: 6/6/93 Author: J. Williams [6/15/93]  
 Desc: Queue Full Handling  
 Res:

X3T9.2/93-103R0 Date: 5/31/93 Author: G. Milligan [6/15/93]  
 Desc: SCSI-3 Parallel Interface Letter Ballot Comments  
 Res:

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X3T9.2/93-143r0

X3T9.2/93-104R0 Date: 5/24/93 Author: J. Cannon [6/15/93]  
 Desc: Comment on SPI letter ballot  
 Res:

X3T9.2/93-105R0 Date: 6/8/93 Author: J. Lohmeyer [6/15/93]  
 Desc: Response to J. Cannon Letter  
 Res:

X3T9.2/93-106R0 Date: 6/8/93 Author: J. Lohmeyer [6/15/93]  
 Desc: Response to G. Milligan comments on SPI  
 Res:

X3T9.2/93-107R0 Date: 5/27/93 Author: F. Podio [6/15/93]  
 Desc: Letter & draft of AIIM error monitoring & reporting  
 Res:

X3T9.2/93-108R0 Date: 7/9/93 Author: G. Penokie [8/15/93]  
 Desc: SCSI Disk Array Questions and Answers  
 Res:

X3T9.2/93-109R0 Date: 6/7/93 Author: E. Gardner []  
 Desc: SCSI Configured Automagically (SCAM)  
 Res:

X3T9.2/93-109R1 Date: 6/30/93 Author: E. Gardner []  
 Desc: SCSI Configured Automagically (SCAM)  
 Res:

X3T9.2/93-109R2 Date: 7/20/93 Author: E. Gardner [8/15/93]  
 Desc: SCSI Configured Automagically (SCAM)  
 Res:

X3T9.2/93-109R3 Date: 8/9/93 Author: E. Gardner [8/15/93]  
 Desc: SCSI Configured Automagically (SCAM)  
 Res:

X3T9.2/93-109R4 Date: 9/14/93 Author: E. Gardner [10/15/93]  
 Desc: SCSI Configured Automagically (SCAM)  
 Res:

X3T9.2/93-110R0 Date: 6/21/93 Author: H. Landis [8/15/93]  
 Desc: Comments on ATA DMA definitions  
 Res:

X3T9.2/93-111R0 Date: 7/16/93 Author: J. Lohmeyer [8/15/93]  
 Desc: Letter to J. Stai  
 Res:

X3T9.2/93-112R0 Date: 7/8/93 Author: R. Whiteman [8/15/93]  
 Desc: Unitized Connector 12-pin Assignment  
 Res:

X3T9.2/93-112R1 Date: 7/28/93 Author: R. Whiteman/L. Lamers [8/15/93]  
 Desc: Unitized Connector 12-pin Assignment  
 Res:

X3T9.2/93-113R0 Date: 6/9/93 Author: G. Houlder [8/15/93]  
 Desc: SPI rev 12 comments  
 Res:

X3T9.2/93-114R0 Date: 6/28/93 Author: G. Houlder [8/15/93]  
 Desc: SPI Clarification of REQ/ACK pulse width  
 Res:

X3T9.2/93-115R0 Date: 8/20/93 Author: R. Liu [10/15/93]  
 Desc: Request for Clarification re: Table 161 rev 10k  
 Res:

X3T9.2/93-116R0 Date: 7/12/93 Author: J. McGrath [8/15/93]  
 Desc: ATA Power Mode Timer  
 Res:

X3T9.2/93-117R0 Date: 8/19/93 Author: J. Lohmeyer [10/15/93]  
 Desc: Transmittal letter for SCSI-2  
 Res:

X3T9.2/93-118R0 Date: 9/2/93 Author: J. Lohmeyer [10/15/93]  
 Desc: Request for Clarification from E. Lappin  
 Res:

X3T9.2/93-119R0 Date: Author: Lamers/Lohmeyer [8/15/93]  
 Desc: Minutes of X3T9.2 Working Group - JUL '93  
 Res:

X3T9.2/93-120R0 Date: 6/23/93 Author: G. Penokie [8/15/93]  
 Desc: Minutes of RAID Study Group - JUN '93  
 Res:

X3T9.2/93-121R0 Date: 7/19/93 Author: R. Bellino [8/15/93]  
 Desc: PCMCIA Cable Family  
 Res:

X3T9.2/93-122R0 Date: 7/15/93 Author: G. Frazier [8/15/93]  
 Desc: Automatic SCSI ID Acquisition  
 Res:

X3T9.2/93-123R0 Date: 9/17/93 Author: J. Lohmeyer [10/15/93]  
 Desc: Letter to Jean-Paul Emard re: TC reorg  
 Res:

X3T9.2/93-124R0 Date: 7/21/93 Author: C. Monia [8/15/93]  
 Desc: SAM status report  
 Res:



X3T9.2/93-125R0 Date: 7/22/93 Author: Lamers/Lohmeyer [8/15/93]  
 Desc: Minutes of X3T9.2 Meeting #106  
 Res:

X3T9.2/93-126R0 Date: 7/16/93 Author: R. Snively [8/15/93]  
 Desc: Proposed Architecture for Configuring External RAID devices  
 Res:

X3T9.2/93-127R0 Date: 7/20/93 Author: J. Scheible [8/15/93]  
 Desc: Liason Report - X3T9.7 for JUL '93  
 Res:

X3T9.2/93-128R0 Date: 7/23/93 Author: D. Pak [8/15/93]  
 Desc: Liason Report - P1285 for JUL '93  
 Res:

X3T9.2/93-129R0 Date: 7/22/93 Author: G. Penokie [8/15/93]  
 Desc: Minutes of the RAID Study Group - JUL '93  
 Res:

X3T9.2/93-130R0 Date: 7/23/93 Author: D. Hagerman [8/15/93]  
 Desc: Project Proposal for SCSI-3 Controller Commands  
 Res:

X3T9.2/93-131R0 Date: 7/26/93 Author: J. Lohmeyer [8/15/93]  
 Desc: Letter to CBEMA on payment for Editorial services  
 Res:

X3T9.2/93-132R0 Date: Author: J. Stai [8/15/93]  
 Desc: Response to JBL Letter  
 Res:

X3T9.2/93-133R0 Date: 8/31/93 Author: S. Finch [10/15/93]  
 Desc: Is ATA-2 a bus standard or a device standard  
 Res:

X3T9.2/93-134R0 Date: 8/31/93 Author: S. Finch [10/15/93]  
 Desc: Should the power Connectors be part of the ATA-2 Standard  
 Res:

X3T9.2/93-135R0 Date: 8/31/93 Author: S. Finch [10/15/93]  
 Desc: How should the ATA-2 Standard Bus Cabling be handled  
 Res:

X3T9.2/93-136R0 Date: 8/31/93 Author: S. Finch [10/15/93]  
 Desc: Bus Definitions, Driver Specifications and Backward Compatibility  
 Res:

X3T9.2/93-137R0 Date: 9/7/93 Author: C. Monia []  
 Desc: Queuing Model Definitions & Task States  
 Res:

X3T9.2/93-137R1 Date: 9/15/93 Author: C. Monia [10/15/93]  
 Desc: Queuing Model Definitions & Task States  
 Res:

X3T9.2/93-138R0 Date: 9/7/93 Author: C. Monia []  
 Desc: Proposal for SCSI Service Interface  
 Res:

X3T9.2/93-138R2 Date: 9/15/93 Author: C. Monia [10/15/93]  
 Desc: Proposal for SCSI Service Interface  
 Res:

X3T9.2/93-139R0 Date: 9/7/93 Author: L. Lamers [10/15/93]  
 Desc: SCSI-2 Revision 101 Corrections  
 Res:

X3T9.2/93-140R0 Date: 9/15/93 Author: G. Penokie [10/15/93]  
 Desc: SCSI-3 Queuing Model  
 Res:

X3T9.2/93-141R0 Date: Author: G. Penokie [10/15/93]  
 Desc: Minutes of RAID Study Group  
 Res:

X3T9.2/93-142R0 Date: Author: L. Lamers [10/15/93]  
 Desc: Minutes of X3T9.2 Working Group - SEP '93  
 Res:

X3T9.2/93-143R0 Date: Author: Lamers/Lohemyer [10/15/93]  
 Desc: Minutes of X3T9.2 Meeting #107  
 Res:

X3T9.2/93-143R0 Date: 9/15/93 Author: J. Geldman [10/15/93]  
 Desc: ATA Fast Timing Enhancement  
 Res:

X3T9.2/93-144R0 Date: 9/16/93 Author: L. Lamers [10/15/93]  
 Desc: 16-Byte Multimedia Commands  
 Res:

X3T9.2/93-145R0 Date: 9/12/93 Author: R. Weber [10/15/93]  
 Desc: COPY Command definition for SCSI-3  
 Res:

X3T9.2/93-146R0 Date: 9/16/93 Author: J. McGrath [10/15/93]  
 Desc: Power Management Modes in ATA  
 Res:

X3T9.2/93-147R0 Date: 9/16/93 Author: G. Stephens [10/15/93]  
 Desc: TIB on tape partitions  
 Res:

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X3T9.2/93-143r0

X3T9.2/93-148R0           Date: 9/21/93   Author: L. Lamers   [10/15/93]  
Desc: Minutes of the Disk Drive Working Group - Sep '93  
Res:

X3T9.2/93-149R0           Date: 9/21/93   Author: Paul D. Aloisi   [10/15/93]  
Desc: RAID Hardware Issues  
Res:

X3T9.2/93-150R0           Date: 9/22/93   Author: P. Dougherty   [10/15/93]  
Desc: Software Write Protect  
Res: