

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

**Doc. No.:** X3T9.2/92-229R0

**Date:** December 10, 1992

**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 #103  
San Diego, CA -- December 7-8, 1992

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**Agenda**

1. Opening Remarks
2. Approval of Agenda
3. Attendance and Membership
  - 3.1 Roll Call of Members in Jeopardy
4. Approval of Minutes - October Meeting Ft. Lauderdale, FL
5. Document Distribution
6. Liaison Reports and Call for Patents
  - 6.1 ISO [Milligan]
  - 6.2 IT8 [Lohmeyer]
  - 6.3 Fibre Channel [Allan]
  - 6.4 Small Form Factor Industry Group [Allan]
  - 6.5 IEEE P1394 [Smyers]
  - 6.6 SSA Status [Scheible]
  - 6.7 IEEE P1285 Status
  - 6.8 Call for Patents
7. Review of Old Action Items
8. Working Group and/or Project Status Reports
  - 8.1 SCSI General Working Group (X3T9.2/92-224) [Lamers]
  - 8.2 SCSI-2 Status [Lamers]
  - 8.3 SCSI Common Access Method (CAM)
  - 8.4 AT Attachment Status (ATA) [Allan]
  - 8.5 ATA Extensions [Allan]
  - 8.6 SCSI-3 Architecture Model (SAM) Status [Monia]
  - 8.7 SCSI-3 Parallel Interface (SPI) Status [Lamers]
  - 8.8 SCSI-3 Interlocked Protocol (SIP) Status [Lamers]
  - 8.9 SCSI-3 Generic Packetized Protocol (GPP) Status [Stephens]
  - 8.10 SCSI-3 Serial Bus Protocol (SBP) Status [Gardner]
  - 8.11 SCSI-3 Fiber Channel Protocol (FCP) Status [Snively]
  - 8.12 SCSI-3 Command Set (SCS) Status [Lamers, Stephens]
  - 8.13 Directly-Addressable Device Interface (DADI) [Lohmeyer]
  - 8.14 RAID Study Group (92-223) [Penokie]
9. Old Business
  - 9.1 Synchronization Status and Errors (92-130R2) [DeKoning]
  - 9.2 Proposal to add a disconnect unconditionally after command phase (92-133 R2) [Smyers]
  - 9.3 SCSI-3 Architecture Model Issues [Monia]
  - 9.4 Serial Protocol Issues [Gardner, Marazas, Smyers, Snively, Stephens]
  - 9.5 SFF Submission for SPI Annex (92-196) [Allan]
  - 9.6 Project Proposal for Common Access Method (CAM-2) (92-154 R1) [Dallas]

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

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Telephone: 202-737-8888 (Press 1 twice) FAX: 202-638-4922 or 202-628-2829

- 9.7 ATA Extensions Download Microcode Command (92-168) [McGrath]
  - 9.8 SCSI Caching Large Segment Control (92-217) [Milligan]
  - 9.9 ATA Extensions REST/RESUME Functions (92-132) [Zanghepour]
  - 9.10 Power Pin Compatibility Issue Revisited (90-199,91-23) [McGrath]
  - 10. New Business
    - 10.1 Call for Volunteers, X3T9.2 Chair and Vice-Chair (X3T9.2/92-208 & 209)
    - 10.2 Format Track LBA Proposal (92-185) [Leach]
    - 10.3 Global Logging Target Save Disable Bit (92-218R1) [Milligan]
    - 10.4 Shall CDBs be limited to 12 or 16 or n bytes?
    - 10.5 Mixed SCSI-2 and SCSI-3 Devices (92-216) [Ham]
    - 10.6 SPI Issues (core grounds & glitch filters)
    - 10.7 ATA Forwarding Motion [Allan]
    - 10.8 Letter Ballot Results on ATA Responses
    - 10.9 Letter Ballot Results on CAM-2 Project Proposal
    - 10.10 Request for Interpretation on SCSI-2 from Toshiba
    - 10.11 Pin Capacitance (92-234r0) [Spence]
    - 10.12 Hot Plug Leakage Current (92-219R1) [Asami]
    - 10.13 Review of new documents
    - 10.14 Agenda for the January X3T9.2 General Working Group
  - 11. Review of Action Items
  - 12. Meeting Schedule
    - 12.1 Working Group Schedule
    - 12.2 Authorization of Working Group Meetings
  - 13. Adjournment
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## Results of Meeting

### 1. Opening Remarks

John Lohmeyer, the Chair, called the meeting to order at 9:00 a.m., Monday December 7, 1992. He thanked Rich Bailly of Vitro Corp. for hosting 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.

### 2. Approval of Agenda

The draft agenda was approved with the following additions:

- 10.10 Request for Interpretation on SCSI-2 from Toshiba
- 10.11 Pin Capacitance (92-234r0) [Spence]
- 10.12 Hot Plug Leakage Current (92-219R1) [Asami]

### **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.

With the termination of 3 organizations for nonattendance (see 3.1), the X3T9.2 voting membership is now at 62 organizations down from 65 at the last meeting. 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 25 people from 9 organizations: Archive, Burndy, DDK Electronics, Future Domain, Hirose, Honda, Micropolis, Quantum, and Sony. The letters said that these 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.

Representatives were present from all of other organizations except: Archive, DDK Electronics, Quantum, and Sony. The P and A members from these organizations were changed to observer status.

Chair's Note: After the meeting, Jim McGrath of Quantum contacted the Chair and said that he had attended the August meeting and therefore should not have been in jeopardy. Since the minutes confirm that Jim was indeed there, I did not terminate the Quantum membership.

The Chair also noted that membership can be terminated for not returning letter ballots. The rules are slightly different in that the chair must send warning letters to those organizations that fail to return letter ballots from two successive mailings. If the organization fails to return the next (third) letter ballot, then their membership is terminated.

### **4. Approval of Minutes - October Meeting Ft. Lauderdale, FL (92-200 R1)**

The minutes were approved as written.

### **5. Document Distribution**

John Lohmeyer said that the committee mailing had gone out a bit later than usual, but he had still received his more than two weeks prior to the meeting. 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 Thursday, December 17, 1992. 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. Liaison Reports and Call for Patents**

### **6.1 ISO [Milligan]**

Gene Milligan, the X3T9 International Representative, gave an oral report and later provided an electronic report to X3T9:

ISO Report  
12/92

The X3 Secretariat forwarded the report that the U.S. could not continue to supply an editor for the Streaming Cartridge Drive Interface in a 20 October letter.

The JTC 1 TAG has issued letter ballots on HIPPI FP, HIPPI LE, HIPPI SC, and FC New Project Proposals all of which closed 10 December.

### **6.2 IT8 [Lohmeyer]**

John Lohmeyer had nothing new to report.

### **6.3 Fibre Channel [Allan]**

Dal Allan reported. Comments on rev 3.0 of FC-PH are being reviewed. Most of last working group was spent on class 4 to insure guaranteed bandwidth. Forwarding of the class 4 material is expect in April 93. The IPI FC-4 is coming along.

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

Dal Allan reported orally and provided the following written report:

The revised charter for SFF was approved by the membership. The organization is now renewed on an annual basis and will provide a forum to work on issues within the disk drive industry.

Bob Whiteman is leading a SWIG on the use of the unitized connector in rack and stack environments.

The two alternative ATA interfaces are being balloted within the SFF membership as well as the 1.3 inch form factor.

### **6.5 IEEE P1394 [Smyers]**

Scott Smyers reported. Mike Teener has prepared a baseline document with the exception of section 8 on bus management. The draft will be available at the next IEEE P1394 meeting on Wednesday, December 9, 1992.

## 6.6 SSA Status [Scheible]

John Scheible reported. A users support group for SSA is being set up. A project proposal for a new task group has been submitted directly to X3T9. The proposal was included in the X3T9.2 mailing. John Lohmeyer moved and Larry Lamers seconded that X3T9.2 recommend this project be approved by X3T9. The motion carried: 22 in favor, 1 opposed, 1 abstention.

Gene Milligan moved and Jeff William seconded that X3T9.2 recommend to X3T9 that the SSA Physical project be assigned to X3T9.2 instead of creating a new task group. The motion failed: 7 in favor, 14 opposed, 3 abstentions.

## 6.7 IEEE P1285 Status

Dennis Pak gave a brief oral report and provided a written report. See document X3T9.2/92-232r0.

The key topic has been the alpha level. Supporting real-time multi-threaded events has been the main point of the discussion. A critical issue is characterizing the latency. Chris Hamlin is developing a scope and features document for the alpha level. Work on the beta level is focused on RAMLINK being championed by David James.

## 6.8 Call for Patents

This is a regular agenda item to identify any potential patent issues with developing standards. Patents that may be related to various X3T9.2 projects are a Conner Peripherals patent on power management, a Maxtor patent on spindle synchronization, and an AMD patent (5,113,098) on a glitch filter for SCSI signals.

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) John Lohmeyer will draft and/or plagiarize a patent notice for working draft documents. **Carried over**
- 2) John Lohmeyer will take the editor's fund proposal to X3T9. **Complete.**
- 3) John Lohmeyer will take the SCSI-3 project proposals to X3T9 for further processing. **Complete.**
- 3) Larry Lamers will conduct a letter ballot on the CAM-2 project proposal. **Complete.**
- 4) Larry Lamers will conduct a letter ballot on the ATA response letters. **Complete.**

## 8. Working Group and/or Project Status Reports

### 8.1 SCSI General Working Group (X3T9.2/92-224) [Lamers]

John Lohmeyer reported on the last working group meeting. See 92-224 for details.

### 8.2 SCSI-2 Status [Lamers]

Larry Lamers reported that the initial round of the ISO editing was complete and several folks are doing a detailed review of document.

**8.3 SCSI Common Access Method (CAM)**

CAM is in its first public review period that closes January 1, 1993.

**8.4 AT Attachment Status (ATA) [Allan]**

Dal Allan reported. Multi-word DMA timing around Tj is back to the original proposal from Emulex. Tom Hanan has proposed extending the definition of LOCK and UNLOCK to cover removable devices not just removable media. This proposal is under consideration for an annex. The power management feature needs to be dealt with due to the Conner position on its patents.

**8.5 ATA Extensions [Allan]**

This project needs an editor to get off the ground. Interested folks should contact the Chair for details.

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

Charles Monia reported that he has been participating in the SBP discussions and there was an editing session on Sunday. The result of this is another revision that recasts the architecture into a client-server model.

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

Larry Lamers reported that revision 9 was available at the meeting for review. There is a strong desire to complete this document by the next plenary for forwarding.

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

No change.

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

Gary Stephens reported that revision three of the document is available. A session devoted to GPP is planned at the January working group on Monday.

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

Revision four is under development and will be presented later in the meeting. Another editing session is planned for Florida on January 6-7, 1993.

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

Robert Snively reported that the feedback has not been contentious except for the removal of bus device reset. Resolution of this will be attempted through the reflector. Consideration is being given to an installable option.

**8.12 SCSI-3 Command Set (SCS) Status [Lamers, Stephens]**

This agenda item will be replaced with ones on SPC, SBC, SSC, SGC, and SMC upon approval of these projects.

Ralph Weber has been appointed the editor of the SCSI-3 Primary Command Set document. He has an outline of the document and a list of approved documents (see 92-225, -226). These will be reviewed at the January working group.

### **8.13 Directly-Addressable Device Interface (DADI) [Lohmeyer]**

John Lohmeyer reported that project number 964-D has been assigned to this project.

### **8.14 RAID Study Group (92-223) [Penokie]**

George Penokie reported that an initial study group meeting was held at the last working group meeting to begin discussions on RAIDs. This was an exploratory meeting but there was sufficient interest to warrant continuing the activity. A second RAID study group meeting was planned for Monday after the plenary session recessed.

## **9. Old Business**

### **9.1 Synchronization Status and Errors (92-130R2) [DeKoning]**

John Lohmeyer stood in for Rod DeKoning. This document was recommended for acceptance by the working group. However, since the document had not yet been distributed in a mailing, the issue was deferred until the next plenary meeting.

### **9.2 Proposal to add a disconnect unconditionally after command phase (92-133 R2) [Smyers]**

Jeff Williams desired a change to the label "DImm". He also suggested changing the definition so that it modified the TTD bit.

The disconnect privilege bit when zero case needs to be addressed as a priority. Scott will modify the proposal for the next working group.

### **9.3 SCSI-3 Architecture Model Issues [Monia]**

Charles Monia presented the latest architecture model (92-227R2). This model is substantially revised and is now based on a client-server paradigm. The presentation was well received. It looks like the milestone of significant consensus has been reached.

### **9.4 Serial Protocol Issues [Gardner, Marazas, Smyers, Snively, Stephens]**

Ed Gardner presented a tap fetch ordering example (see X3T9.2/92-228r0).

Jerry Marazas presented revision 4 of the serial bus protocol.

Two more editing sessions are planned: the first is planned for January 6-7, 1993 in Boca Raton, FL; the second will be held in late January probably in the San Francisco Bay area. The details of the second meeting will be sent to the SCSI Reflector and announced at the January working group meeting. Alternatively, contact Scott Smyers at Apple (408-974-7057) for information.

### **9.5 SFF Submission for SPI Annex (92-196) [Allan]**

Larry Lamers reiterated his statement from the last meeting that he needs an electronic version of the material to include in SPI if it is accepted.

Larry also stated that the material only applies to 2.5-inch disk drives. If this is included in SPI, which is only P cable to date, it could confuse the industry on what the approved SCSI-3 pinout is for A cables. Furthermore, having power and ground defined for the same pin will cause problems with a conformance statement.

Dennis Pak stated that the proposal does not document the vendor-specific implementation Apple uses.

Larry Lamers moved and Bill Spence seconded that 92-196 be included in SPI revision 10. The motion failed: 0 yes, 32 no, 0 abstain.

**9.6 Project Proposal for Common Access Method (CAM-2) (92-154 R1) [Dallas]**

The study group report is document 92-238r0. Future reports on the study group and project when approved will be incorporated as part of CAM status reporting.

**9.7 ATA Extensions Download Microcode Command (92-168) [McGrath]**

No action.

**9.8 SCSI Caching Large Segment Control (92-217) [Milligan]**

Final action is scheduled for next plenary meeting.

**9.9 ATA Extensions REST/RESUME Functions (92-132) [Zanghepour]**

No action -- this topic will be dropped from the plenary agenda and will be included in the ATA Extensions working group agenda.

**9.10 Power Pin Compatibility Issue Revisited (90-199,91-23) [McGrath]**

Joe Dambach stated that intermateability of power connectors continues to plague the industry. The problem is variations in the diameter of the pins. The IEC did not respond to the prior request to develop a standard. The EIA is also a candidate for developing a standard.

Joe Dambach moved and Larry Lamers seconded that a request be made to EIA to develop a standard for the power connector pin diameter and the mating cavity. The motion carried: 27 in favor, 0 opposed.

The SFF committee will be requested to initiate and complete the process.

Joe Dambach and Dal Allan have an action item to make the request. Larry Lamers has an action item to include a document with the recommendations for the power connector in the mailing.

**10. New Business**

**10.1 Call for Volunteers, X3T9.2 Chair and Vice-Chair (X3T9.2/92-208 & 209)**

John Lohmeyer made the call for volunteers for officers of X3T9.2.

**10.2 Format Track LBA Proposal (92-185) [Leach]**

No action.

**10.3 Global Logging Target Save Disable Bit (92-218R1) [Milligan]**

Final action is scheduled for the next plenary meeting.

**10.4 Shall CDBs be limited to 12 or 16 or n bytes?**

Dal Allan moved and Bob Snively seconded that a 16-byte maximum length for command descriptor blocks be established in the SCSI-3 Architecture Model. The motion carried: 29 in favor, 0 opposed, 0 abstentions.



### **10.5 Mixed SCSI-2 and SCSI-3 Devices (92-216) [Ham]**

Bill Ham will develop material for a foreword in SPI to deal with this issue.

### **10.6 SPI Issues (core grounds & glitch filters)**

The issue turns around the fact in 68-conductor cables there are 5-pairs in the core and requiring all pairs besides REQ and ACK to be GROUND pairs seems too restrictive given that the data signals are already restricted to the outer layer. There was consensus that almost any signal other than the data lines would be okay in the core because they would not be changing during an information transfer phase.

It was also noted that it is best to separate REQ and ACK, if possible, in the cable core. The proposed wording was "If more than 3 pairs are in the core, the REQ and ACK signals should not be adjacent to each other." This wording change will be incorporated in revision 10.

Does the glitch filter statement in 7.1.3 apply to all signals? The other timings for signal assertion means that only REQ and ACK need glitch filters. Bill Ham pointed out that these filters could affect the skew. A note pointing out this fact should be included. It was agreed to change the filter statement to requiring glitch filters only on REQ/REQQ and ACK/ACKQ.

### **10.7 ATA Forwarding Motion [Allan]**

A revised document with the timing on Tj corrected will be prepared by the project editor.

George Penokie moved and Scott Smyers seconded that the lock/unlock annex be considered for the ATA extensions document. The motion passed unanimously.

Gene Milligan moved and John Lohmeyer seconded that the following note be included in the revised document:

"Note: The developers of this standard have requested that holder's of patents that may be required for the implementation of the standard, disclose such patents to the publisher. However neither the developers nor the publisher have undertaken a patent search in order to identify which if any patents may apply to this standard.

No position is taken with respect to the validity of any claim or any patent rights that may have been disclosed. Details of submitted statements may be obtained from the publisher concerning any statement of patents and willingness to grant a license under these rights on reasonable and nondiscriminatory terms and conditions to applicants desiring to obtain such a license."

The motion passed 23-0-1.

Larry Lamers will prepare a letter ballot for X3T9.2 on forwarding ATA Rev 3.3 and mail a copy of ATA Rev 3.3 to Robert Fink for the X3T9 mailing.

### **10.8 Letter Ballot Results on ATA Responses**

The letter ballot on approving the response letters to the AT Attachment public review comments (X3T9.2/92-205) passed 49-0-0-11 (Archive, Berk-Tek, Burndy, DDK Electronics, Honda, Micropolis, Panasonic, Quantum, Seagate, Sony, and Texas Instruments). The Adaptec Yes vote included the following comment from Norm Harris:

"I assume that the recommendation for Tj timing on Mode 3 DMA will be noted in some way. We are prepared to accept this proposal as is but will support the 20 nsec consensus recently adopted on this number."

John Lohmeyer will take the ATA response letters to X3T9.

#### **10.9 Letter Ballot Results on CAM-2 Project Proposal**

The chair reported that a letter ballot on approving a Project Proposal for a Common Access Method -2 project (X3T9.2/92-206) passed 48-1-0-11 (Archive, Berk-Tek, Burndy, DDK Electronics, Honda, Micropolis, Panasonic, Quantum, Seagate, Sony, and Texas Instruments). The No vote from Conner Peripherals (Steve Cornaby) included the following comment:

"Conner does not feel that another committee is needed to unstandardize the industry further. The result of the first CAM committees was to only proliferate and force even more standards from what was basically a one standard industry."

John Lohmeyer will take the project proposal to X3T9.

#### **10.10 Request for Interpretation on SCSI-2 from Toshiba**

John Lohmeyer stated that he had received a document from Lynn Barra of the X3 Secretariat in which Toshiba requested an interpretation on SCSI-2. Lynn informed John that an interpretation cannot be rendered on an unapproved and unpublished document, but felt that the committee should be aware of the problem.

John suggested that SPI should be explicit on this issue to avoid future problems. Wording was developed to clarify section 10.18 of SPI (see 92-235).

John accepted an action item to write a letter to Toshiba explaining the action taken within X3T9.2 for SPI.

#### **10.11 Pin Capacitance (92-234r0) [Spence]**

Bill Spence presented a test procedure for pin capacitance.

There is an issue with section 7.1.4 in SPI. Measurement at the device connector closest to the stub is meaningless for measurement of capacitance. SPI should say "measured at the beginning of the stub." The proposed wording was accepted.

There is a fundamental question of whether the proposed test procedure is the right measurement (1.0 Mhz and zero DC offset). Do you measure at the middle of DC range (1.5 volts) or at zero voltage? A measurement at zero voltage is more difficult to meet.

It was agreed to incorporate 92-234r0 into SPI with a warning on the DC offset debate.

#### **10.12 Hot Plug Leakage Current (92-219R1) [Asami]**

Tak Asami presented a proposal to add a hot plug leakage current specification to SPI. The basis for this request was observations that certain new ESD protection schemes when applied to sub-micron chip processes cause large currents to flow when plugged into a live bus.

The document revised to exclude negative current for item f) was accepted for incorporation in SPI.

**10.13 Review of new documents**

The only new document not dealt with under a specific agenda item was:

- 1) X3T9.2/92-231 SCSI-2 Options Selection Document  
This document is the submittal from Gary Stephens on SCSI-2 conformance.

**10.14 Agenda for the January X3T9.2 General Working Group**

The following draft agendas were generated for the January X3T9.2 Working Group meetings in Sunnyvale:

Draft Agenda  
January '93 X3T9.2 General Working Group

1. Opening Remarks
2. Attendance and Membership
3. SCSI-3 Command Sets (SPC, SBC, SSC, SGC, and SMC) {Tuesday am}
  - 3.1 Synchronization Status and Errors (92-130) [DeKoning]
  - 3.2 SCSI-3 Primary Commands (92-225r0,226r0) [Weber]
  - 3.3 Disconnect Control on Initial Connection (92-133r5) [Smyers]
  - 3.4 Printer Command Set [Heckman]
4. SCSI-3 Architecture Model (SAM) {Tuesday am}
  - 4.1 Queue Full Handling (92-214r0) [DeKonig]
5. Serial Protocol Topics {Tuesday pm}
  - 5.1 SCSI-3 Serial Bus Protocol (SBP)
  - 5.2 SCSI-3 Fiber Channel Protocol (FCP)
  - 5.3 SCSI-3 Generic Packetized Protocol (GPP) {Report on Monday GPP WG}
6. General WG Topics {Wednesday am}
  - 6.1 Conformance Testing (92-231) [Stephens]
  - 6.2 Report on CAM-2 Study Group Meeting [Dallas]
  - 6.3 Foreword on Use of SCSI-3 Moniker [Ham]
7. SPI Topics {Wednesday am-pm}
  - 7.1 Review of SPI Revision 10
  - 7.2 Power Connector Pin & Cavity [Dambach, Allan]
  - 7.3 Hot Plug Leakage Current Specification (92-219r2) [Asami]
  - 7.4 Test Procedure - Maximum Signal Capacitance (92-234r0) [Spence]
  - 7.5 Clarification of Synchronous Handshake (92-235r0) [Lamers]
8. Working Group Schedule
9. Adjournment

Draft Agenda  
January 11, 1993 X3T9.2 ATA Extensions Working Group

1. Opening Remarks
2. Attendance and Membership
3. ATA Extensions
  - 3.1 Review of ATA Rev 3.2 Draft Document
  - 3.2 ATA Download Microcode Command (92-168) [McGrath]
  - 3.3 Proposed REST/RESUME Functions (92-132) [Zangenehpour]
  - 3.4 Format Track LBA Proposal (92-185 R1) [Leach]
4. Meeting Schedule
5. Adjournment

Agendas for the other scheduled working group meetings will be distributed on the SCSI reflector by the chairs of the working group meetings.

**11. Review of Action Items**

- 1) Joe Dambach and Dal Allan will request EIA to develop a standard for the four-pin power connector.
- 2) Larry Lamers will include a document with the recommendations for the power connector in the mailing.
- 3) John Lohmeyer will take the ATA response letters to X3T9.
- 4) John Lohmeyer will take the CAM-2 project proposal to X3T9.
- 5) John Lohmeyer will draft a response to the Conner letter on the PrairieTek patents.
- 6) Dal Allan to prepare revision 3.3 of ATA.
- 7) Larry Lamers to prepare a letter ballot on ATA for X3T9.2.
- 8) Larry Lamers to mail a copy of ATA to Robert Fink for the X3T9 mailing.
- 9) John Lohmeyer to present revised X3T9.2 plenary meeting schedule to X3T9.
- 10) John Lohmeyer to draft a letter acknowledging receipt of the request for interpretation from Toshiba.

**12. Meeting Schedule**

John Lohmeyer presented a proposal for revising the working group schedule to include the X3T9.2 plenary. This consolidation will reduce the number of meeting weeks to six and should focus the efforts of participants resulting in a more efficient standards development process.

Robert Snively moved and Steve Heil seconded that X3T9.2 adopt the revised meeting schedule and hold their plenary meetings in the odd months. The motion carried: 31 in favor, 1 opposed, and 1 abstention.

Jeff Williams stated that his no vote was based on the belief that it will reduce participation.

John accepted an action item to take this proposal to X3T9 and negotiate the earliest possible implementation of it with the meeting hosts.

The next meeting of X3T9.2 will be February 15-16, 1992 at the Wyndham Southpark Hotel (512-448-2222) in Austin, TX hosted by Motorola. The room rates are \$82.00 plus tax. The reservation deadline for these rates is February 1, 1993.

The plenary meeting schedule (**subject to the above motion**) is:

Date	Location	Host
February 15-16, 1993	Austin, TX	Motorola
April 19-20, 1993	St. Petersburg Beach, FL	AMP
June 21-22, 1993	Minneapolis, MN	Stanatek
August 16-17, 1993	Colorado Springs, CO	NCR
October 11-12, 1993	Ft. Lauderdale, FL	Boeing
December 6-7, 1993	San Diego, CA	Vitro
[Locations and hosts below here are tentative]		
February 14-15, 1994	Austin, TX	IBM
April 18-19, 1994	St. Petersburg Beach, FL	AMP
June 20-21, 1994	Minneapolis, MN	Stanatek
August 15-16, 1994	Keystone, CO	Methode
October 17-18, 1994	Ft. Lauderdale, FL	Boeing
December 5-6, 1994	San Diego, CA	Vitro

**12.1 Working Group Schedule**

The General Working Group meeting schedule is:

Date	Location	Host
Jan 11-15, 1993	Sunnyvale, CA	Tandem
Mar 15-19, 1993	Orange County, CA	Emulex
May 17-21, 1993	Santa Fe, NM	Los Alamos
Jul 19-23, 1993	Manchester, NH	DEC
Sep 13-17, 1993	Poughkeepsie, NY	IBM
Nov 8-12, 1993	Colo Spgs, CO	NCR

The schedule for the January '93 working group week is (X3T9.2 related meetings are shown with an asterisk):

Day	Meeting	Times
Monday	Small Form Factor	9:00a - 1:00p
	ATA Extensions	2:00p - 5:00p (*)
	RAID Study Group	5:00p - 8:00p (*)
	CAM-2 Study Group	9:00a - 5:00p (*)
	GPP Editing Session	9:00a - 5:00p (*)
	IPI-3	9:00a - 5:00p
Tuesday	X3T9.2 General Working Group	9:00a - 8:00p (*)
	SSA Study Group	6:00p - 8:00p
	IPI-3	9:00a - 5:00p
Wednesday	X3T9.2 Working Group	9:00a - 5:00p (*)
	FC-PH Services	9:00a - 5:00p
	FC-LT	5:00p - 8:00p
Thursday	SCSI Editors Session	8:30a - 5:00p (*)
	IEEE P1394	9:00a - 5:00p
	FC-PH	9:00a - 5:00p
	FC-LT w/Distributed Fabric	9:00a - 8:00p
	FC-0	1:00p - 5:00p
Friday	FC/SCI	9:00a - 12:00n
	FC-PH General	8:00a - 2:00p
	FC-0	8:00a - 2:00p

Note: Verify non-X3T9.2 meetings with the appropriate organization before making travel plans--these meetings may change.

Two Serial Bus Protocol editing sessions are also planned:

Dates	Location	Host/Contact
January 6-7, 1993	Boca Raton, FL	Jerry Marazas
Late January	San Jose area	Scott Smyers

The details of the second meeting will be sent to the SCSI Reflector and announced at the January working group meeting. Alternatively, contact Scott Smyers at Apple (408-974-7057) for information.

**12.2 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.

John Lohmeyer moved and Larry Lamers seconded that X3T9.2 authorize the meetings listed with an asterisk in agenda item 12.1 and two editing sessions for SBP. The motion passed unanimously.

**13. Adjournment**

The meeting was adjourned at 5:50 p.m. on Tuesday December 8, 1992.

## Meeting Attenders -- Enclosure (1)

Name	Status	Organization
Mr. Alan R. Olson	P	3M Company
Mr. Norm Harris	P	Adaptec, Inc.
Mr. Douglas Fields	V	Adaptec, Inc.
Mr. Charles Brill	P	AMP, Inc.
Mr. Bob Whiteman	A	AMP, Inc.
Mr. Jeff Rosa	P	Amphenol Interconnect
Mr. Gary Porter	A	Ancot Corp.
Mr. Scott Smyers	P	Apple Computer
Mr. Dennis Pak	O	Apple Computer
Mr. Tom Debiec	P	Berk-Tek, Inc.
Mr. Edward Hrvatin	P	Burndy Corp.
Mr. Bob Gannon	O	C&M Corp.
Ms. Janet Schank	P	Central Data
Mr. Nicos Syrimis	A	Cirrus Logic Inc.
Mr. Edward Haske	P	CMD Technology
Mr. Stephen R. Cornaby	P	Conner Peripherals
Mr. Soon Ahm Kang	P	Control Data Systems, Inc.
Mr. Michael Smith	S	Dallas Semiconductor
Mr. Tom Hunt	S	Dallas Semiconductor
Mr. Bob Solomon	O	Data General Corp.
Mr. Charles Monia	P	Digital Equipment Corp.
Mr. Ralph Weber	A	Digital Equipment Corp.
Dr. William Ham	A	Digital Equipment Corp.
Mr. William Dallas	A	Digital Equipment Corp.
Mr. Edward A. Gardner	A	Digital Equipment Corp.
Mr. Terry Maezawa	O	EIE, America, Inc.
Mr. David Wagner	O	Emulex Corp.
Mr. Ting Zi Chan	V	Emulex Corp.
Mr. I. Dal Allan	P	ENDL
Mr. Kenneth J. Hallam	V	ENDL
Mr. D. W. Spence	A	ENDL Associates
Mr. Edward Lappin	P	Exabyte Corp.
Mr. Steve Caron	P	Furukawa Electric America
Ms. Chris Borgers	A	Future Domain
Mr. Mark Woithe	O	Future Domain
Mr. Jeffrey L. Williams	P	Hewlett Packard Co.
Mr. Oscar Kornblum	P	Hirose Electric U.S.A.
Mr. Yoshihiko Yano	O	Hitachi Computer Products
Dr. Sam Karunanithi	P	Hitachi Micro Systems, Inc.
Mr. David McFadden	P	Honda Connector
Mr. George Penokie	P	IBM Corp.
Mr. Gary R. Stephens	A	IBM Corp.
Mr. Gerald Marazas	A	IBM Corp.
Mr. John P. Scheible	O	IBM Corp.
Mr. Giles Frazier	S	IBM Corp.
Mr. Larry Grasso	S	IBM Corp.
Mr. Wendell Lengefeld	V	IBM Corp.
Mr. David Lawson	P	Interphase Corp.
Mr. Geoff Barton	P	Iomega Corp.
Mr. Gary Brandvold	V	Iomega Corp.
Mr. David J. Fox	A	JAE Electronics
Mr. Timothy Ash	V	Jaycor
Mr. Rick Paul	O	Judd Wire, Inc.
Mr. Robert Bellino	P	Madison Cable Corp.
Ms. Donna Pope	P	Maxoptix Corp.
Mr. Lawrence J. Lamers	P	Maxtor Corp.
Mr. Bob Masterson	P	Methode Electronics, Inc.
Mr. Raymond C. Yule	P	Micropolis Corp.
Mr. Joe Dambach	P	Molex Inc.

## Meeting Attenders -- Enclosure (1)

Name	Status	Organization
Mr. Lessie Ortega de Widman	O	National Semiconductor
Mr. James Babcock	V	NCCOSC RDT&E Div.
Mr. John Lohmeyer	P	NCR Corp.
Mr. Bruce Anderson	P	NEC Technologies Inc.
Mr. Stephen F. Heil	P	Panasonic Technologies, Inc
Mr. Satwinder S. Mangat	A	Ricoh Corporation
Mr. Gene Milligan	A	Seagate Technology
Mr. Forrest Crowell	P	SGS-Thomson Microelectronics
Mr. Stephen G. Finch	P	Silicon Systems, Inc.
Mr. Paul W. Hanmann	V	Storage Concepts, Inc.
Mr. Robert N. Snively	P	Sun Microsystems, Inc.
Mr. John Moy	O	Tandem Computers
Mr. Ricardo Dominguez	P	Texas Instruments
Mr. Alan Wetzell	O	Texas Instruments
Mr. Harvey Waltersdorf	P	Thomas & Betts
Mr. Alan Ebright	P	Toshiba America, Inc.
Mr. Chuck Duquette	P	U.S. Design
Mr. Arlan P. Stone	A	UNISYS
Mr. Masood Parvaresh	V	Vitro Corp.
Mr. Tak Asami	A	Western Digital
Mr. Doug Piper	P	Woven Electronics
Mr. Steve Drake	P	Yamaichi Electronics, Inc.
Mr. Greg Leonhardt	P	Zenith Data Systems

82 People Present

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



Dec 15, 1992 - X3T9.2 Membership - Enclosure (2)

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Dec 15, 1992 - X3T9.2 Document Register - Enclosure (3)

X3T9.2/92-1 Date: Author: J. Lohmeyer [1/21/92]  
Desc: X3T9.2 1991 Annual Report  
Res:

X3T9.2/92-2 Date: 12/10/91 Author: SC 25/WG 4 Secretariat [1/21/92]  
Desc: Standardization Activities in ISO/IEC JTC 1/SC 25/WG 4  
Res:

X3T9.2/92-3 Date: 12/10/91 Author: SC 25/WG 4 Secretariat [1/21/92]  
Desc: Draft Report of 2nd Mtg of WG 4 held in Bremen, Germany 9/30-10/2 1991  
Res:

X3T9.2/92-4 Date: 1/10/92 Author: B. Spence [1/21/92]  
Desc: Cable Impedance Revisited  
Res:

X3T9.2/92-5 Date: 1/15/92 Author: Lamers/Lohmeyer [1/21/92]  
Desc: Houston Working Group Minutes  
Res:

X3T9.2/92-6 Rev 1 Date: 7/16/92 Author: K. Jones [9/15/92]  
Desc: Enhancement of Sequential Access Command Set for Medium Changers  
Res: Parts accepted in principal for SCSI-3

X3T9.2/92-7 Rev 1 Date: 2/13/92 Author: V. Novak [3/24/92]  
Desc: Proposed SCSI Identifier Symbols  
Res: Accepted for SCSI-3 SPI at 2/92 plenary meeting

X3T9.2/92-8 Date: 1/11/92 Author: W. Burr [1/21/92]  
Desc: An Introduction to X3T9 and I/O Interface Standards  
Res:

X3T9.2/92-9 Date: 1/7/92 Author: L. Lamers [1/21/92]  
Desc: ltr to Mr. Mori responding to his questions in 91-170  
Res:

X3T9.2/92-10 Date: 1/13/92 Author: T. Hanan [1/21/92]  
Desc: PCMCIA IDE Host Interface Implementation Guide  
Res:

X3T9.2/92-11 Date: 1/13/92 Author: C. Runowicz [1/21/92]  
Desc: DMA data transfer method as outlined in AT Attachment  
Res:

X3T9.2/92-12 Date: 1/14/92 Author: J. Williams [1/21/92]  
Desc: CA Clearing Commands  
Res:

X3T9.2/92-13 Date: 1/14/92 Author: J. Williams [1/21/92]  
Desc: Conflicting Statement on CA and Queue Suspension  
Res:

X3T9.2/92-14 Date: 1/10/92 Author: E. Gardner [1/21/92]  
Desc: Previewing Linked Commands in SCSI-3  
Res:

X3T9.2/92-15 Date: 1/10/92 Author: E. Gardner [1/21/92]  
Desc: The Meaning of Linked Commands in SCSI-3  
Res:

X3T9.2/92-16 Date: 1/13/92 Author: C. Mosley [1/21/92]  
Desc: SCSI-3 Connector Presentation  
Res:

X3T9.2/92-17 Date: 1/14/92 Author: F. Samela [1/21/92]  
Desc: Signal Line Increased Current Kicker  
Res:

X3T9.2/92-18 Date: 1/16/92 Author: L. Lamers [1/21/92]  
Desc: DADI Working Group Minutes 1/13/92  
Res:

X3T9.2/92-19 Rev 1 Date: 1/24/92 Author: Penokie/Lamers [1/21/92]  
Desc: SCSI-3 Queuing Working Group Minutes 1/13/92  
Res:

X3T9.2/92-20 Date: 1/14/92 Author: B. Spence [1/21/92]  
Desc: SPI Working Group Minutes for January 1992  
Res:

X3T9.2/92-21 Date: Author: J. Lohmeyer [1/21/92]  
Desc: SPP Working Group Minutes 1/15/92  
Res:

X3T9.2/92-22 Date: 1/17/92 Author: Penokie/Mosley [1/21/92]  
Desc: SPI Connector Contact Working Group Minutes 1/15/92  
Res:

X3T9.2/92-23 Date: 1/1/92 Author: M. Mitoma [1/21/92]  
Desc: Serial Storage Architecture  
Res:

X3T9.2/92-24 Date: 1/15/92 Author: I. Judd [1/21/92]  
Desc: A Serial Link for Storage Subsystems (presentation)  
Res:

X3T9.2/92-25 Date: 11/15/91 Author: I. Judd [1/21/92]  
Desc: A Serial Link for Storage Subsystems (paper)  
Res:

X3T9.2/92-26 Date: 12/12/91 Author: C. Butterworth [1/21/92]  
Desc: Serial Storage Architecture SSA-0 (Transport Layer) Ver 1.0  
Res:

X3T9.2/92-27 Date: 12/12/91 Author: C. Butterworth [1/21/92]  
Desc: Serial Storage Architecture SSA-1 (Disk Order Level) Ver 1.0  
Res:

X3T9.2/92-28 Date: 1/14/92 Author: M. Jordan [1/21/92]  
Desc: Fast Single Ended SCSI Terminator Concept -- Active Negation Emulator  
Res:

X3T9.2/92-29 Date: 1/18/92 Author: Dal Allan [1/21/92]  
Desc: Translation of IPI-3 Command Queueing to SCSI Language  
Res:

X3T9.2/92-30 Date: 1/31/92 Author: L. Lamers [3/24/92]  
Desc: SPP Architectural Meeting January 27-28, 1992  
Res: n.a.

X3T9.2/92-31 Date: 2/5/92 Author: Smyers, Neer, & Newsom [3/24/92]  
Desc: Alternate P-Cable Connector for SCSI-3  
Res: On General WG Agenda 3/16/92 17:00

X3T9.2/92-32 Date: 2/11/92 Author: K. Chan [3/24/92]  
Desc: Fast SCSI Timing Problems and Solutions  
Res: Assigned to SPI WG

X3T9.2/92-33 Date: 2/7/92 Author: S. Smyers [3/24/92]  
Desc: Proposed Requirements for SCSI-3 devices which use P1394 Physical I/F  
Res: To be included in Annex of SBP document

X3T9.2/92-34 Date: 2/14/92 Author: J. P. McGrath [3/23/92]  
Desc: DMA Meeting at HP-PCG on 1/24/92  
Res: On ATA Extensions agenda for 3/16/92 14:00

X3T9.2/92-35 Rev 2 Date: 4/28/92 Author: G. Penokie [5/14/92]  
Desc: SCSI-3 Alt 1 Connector Requirements  
Res: Accepted for SCSI-3 Parallel Interface

X3T9.2/92-36 Date: 2/18/92 Author: B. Spence [3/24/92]  
Desc: Termination of Reserved Lines  
Res:

X3T9.2/92-37 Date: 2/18/92 Author: B. Ham [3/24/92]  
Desc: Specifications for SPI Transceivers  
Res:

X3T9.2/92-38 Date: 2/13/92 Author: F. Opreescu [3/24/92]  
Desc: Proposal for Glitch Immunity Specification  
Res:

X3T9.2/92-39 Date: 2/12/92 Author: A. Crick [3/24/92]  
Desc: Microsoft concerns with the CAM XPT/SIM document  
Res:

X3T9.2/92-40 Date: 2/21/92 Author: Lamers/Lohmeyer [3/24/92]  
Desc: X3T9.2 Meeting #98 Minutes -- February 17, 1991  
Res: n.a.

X3T9.2/92-41 Date: 2/22/92 Author: Lamers/Penokie [3/24/92]  
Desc: Austin Queuing Working Group Minutes  
Res: n.a.

X3T9.2/92-42 Date: 12/30/91 Author: R. Gibson [3/24/92]  
Desc: International Participation Fee  
Res:

X3T9.2/92-43 Date: 2/18/92 Author: Spence/Lamers [3/24/92]  
Desc: SPI Working Group Minutes for February 1992  
Res: n.a.

X3T9.2/92-44 Date: Author: J. Tecco [3/24/92]  
Desc: May 1992 Working Group Announcement  
Res:

X3T9.2/92-45 Rev 1 Date: 4/27/92 Author: Charles Monia [5/14/92]  
Desc: Introduction to Packetized SCSI  
Res:

X3T9.2/92-46 Rev 1 Date: 3/20/92 Author: G. Houlder [3/24/92]  
Desc: Request for new Additional Sense Codes  
Res: On Apr '92 WG agenda

X3T9.2/92-47 Date: 3/12/92 Author: E. Gardner [3/24/92]  
Desc: Request for Sequential-Access Density Codes  
Res:

X3T9.2/92-48 Date: 3/12/92 Author: J. McGrath [3/24/92]  
Desc: Molex Pin Chamfer Proposal  
Res:

X3T9.2/92-49 Date: 3/16/92 Author: C. Mosley [3/24/92]  
Desc: SCSI-3 Connector  
Res:

X3T9.2/92-50 Date: 3/17/92 Author: B. Spence [3/24/92]  
Desc: 8-bit Drives Within a 16-bit SCSI System  
Res:

X3T9.2/92-51 Date: 3/16/92 Author: T. Newsom [3/24/92]  
Desc: Presentation on Alternative Ribbon Connector for SCSI-3  
Res:

X3T9.2/92-52 Date: 9/4/90 Author: T. Newsom [3/24/92]  
Desc: IBM Procurement Specification on Mini Ribbon D Shell Connector  
Res:

X3T9.2/92-53 Date: 2/18/91 Author: T. Newsom [3/24/92]  
Desc: Burndy Specification on Microshield (tm) Receptacle  
Res:

X3T9.2/92-54 Date: Author: T. Newsom [3/24/92]  
Desc: AMP Specification on Receptacle Assembly, 60 Position, Champ .050  
Res:

X3T9.2/92-55 Date: 1/31/90 Author: T. Newsom [3/24/92]  
Desc: Molex Specification on Mini Ribbon Shell Shielded Connector  
Res:

X3T9.2/92-56 Date: 3/12/92 Author: A. Wilhelm [3/24/92]  
Desc: Proposal to modify Device Type 0 to support Media Interchange  
Res:

X3T9.2/92-57 Date: 3/16/92 Author: T. Debiec [3/24/92]  
Desc: Proposal for SCSI Cable Performance Specification  
Res:

X3T9.2/92-58 Date: 3/13/92 Author: C. Ghest [3/24/92]  
Desc: Statement re US patent of Glitch remover circuit  
Res:

X3T9.2/92-59 Date: 2/17/92 Author: B. Ham [3/24/92]  
Desc: Electrical Impacts of SCSI Hot Plugging  
Res:

X3T9.2/92-60 Date: 3/18/92 Author: J. Lohmeyer [3/24/92]  
Desc: ltr re PCMCIA/ATA Proposal, dated February 24, 1992  
Res:

X3T9.2/92-61 Date: 3/16/92 Author: T. Asami [3/24/92]  
Desc: SCSI ACK Net with Wired-OR Driver  
Res: Presented at 3/92 SPI WG Meeting

X3T9.2/92-62 Date: 3/17/92 Author: K. Chan [3/24/92]  
Desc: Differential Fast Synchronous Timing  
Res: Presented at 3/92 SPI WG Meeting

X3T9.2/92-63 Rev 1 Date: 5/15/92 Author: J. Blagaila [7/15/92]  
Desc: Integral Peripherals 68 Pin IDE Pinout  
Res:

X3T9.2/92-64 Date: 12/18/91 Author: Hanan & Abrahamsson [3/24/92]  
Desc: PCMCIA IDE Drive Auto Select Proposal  
Res:

X3T9.2/92-65 Rev 1 Date: 5/15/92 Author: S. Shah [7/15/92]  
Desc: Support for Greater than 528MB ATA Drive  
Res:

X3T9.2/92-66 Date: 1/28/92 Author: [3/24/92]  
Desc: IBM 9333 SCSI Mapping  
Res:

X3T9.2/92-67 Date: 1/29/92 Author: J. Best [3/24/92]  
Desc: SSA-PH Appendix Daisy Chain  
Res:

X3T9.2/92-68 Date: 3/16/92 Author: B. Herron [3/24/92]  
Desc: 3M High-Density .050 "D" Ribbon Style Interconnect System  
Res:

X3T9.2/92-69 Date: 3/13/92 Author: B. Bellino [3/24/92]  
Desc: Madison Cable Impedance Variations  
Res:

X3T9.2/92-70 Date: 3/16/92 Author: L. Lamers [3/24/92]  
Desc: ATA Extensions Working Group Minutes 3/16/92  
Res:

X3T9.2/92-71 Date: 3/18/92 Author: Lamers/Lohmeyer [3/24/92]  
Desc: X3T9.2 General Working Group Minutes 3/16-18/92  
Res:

X3T9.2/92-72 Date: 3/17/92 Author: Lamers/Spence [3/24/92]  
Desc: SPI Working Group Minutes for March 1992  
Res:

X3T9.2/92-73 Date: 2/27/92 Author: D. Shoemaker [3/24/92]  
Desc: ltr to Don Laughry re IEE MSC/X3T9 Memory Attach Strategy  
Res:

X3T9.2/92-74 Rev 1 Date: 3/18/92 Author: S. Shah []  
Desc: Public Review Comment on AT Attachment (BSR X3.221)  
Res:

X3T9.2/92-75 Date: 3/18/92 Author: J. Gallant [3/24/92]  
Desc: Creating a TIB for SCSI-2 Tag Queuing working model.  
Res:

X3T9.2/92-76 Date: 3/16/92 Author: G. Penokie [3/24/92]  
Desc: Connector Contact Working Group Meeting Minutes 3/16/92  
Res:

X3T9.2/92-77 Date: 4/13/92 Author: John Lohmeyer [5/14/92]  
Desc: Response to M. Freeman of MSC on his 4/6/92 letter  
Res:

X3T9.2/92-78 Date: 4/6/92 Author: M. Freeman [5/14/92]  
Desc: Letter to John Lohmeyer on MAT/MS P1265  
Res:

X3T9.2/92-79 Rev 3 Date: 8/15/92 Author: Charles Monia [9/15/92]  
Desc: working draft of the SCSI-3 Architecture Model (SAM)  
Res:

X3T9.2/92-80 Date: 4/27/92 Author: F. Crowell [5/14/92]  
Desc: DS-Links Technical Information  
Res:

X3T9.2/92-81 Date: 4/6/92 Author: Lynn Barra [5/14/92]  
Desc: Transmittal of Public Review Comment #1 ATA  
Res:

X3T9.2/92-82 Date: 4/7/92 Author: Lynn Barra [5/14/92]  
Desc: Approval of Project Proposal for AT Attachments Extensions  
Res:

X3T9.2/92-83 Rev 2 Date: 5/4/92 Author: S. Washburn [7/15/92]  
Desc: Request for Sequential Access Density Codes  
Res: Accepted for SCSI-3

X3T9.2/92-84 Rev 1 Date: 4/24/92 Author: L. Lamers [5/14/92]  
Desc: Preparing Documents for Committee Mailings  
Res:

X3T9.2/92-85 Rev 5 Date: 9/29/92 Author: G. Penokie [11/15/92]  
Desc: Change Inquiry Mode Page  
Res:

X3T9.2/92-86 Date: 4/27/92 Author: D.W. Spence [5/14/92]  
Desc: SCSI Implementation in a 3.3 volt Environment  
Res:

X3T9.2/92-87 Date: 4/27/92 Author: D.W. Spence [5/14/92]  
Desc: Key Changes Proposed for the SPI Standard  
Res:

X3T9.2/92-88 Date: 4/23/92 Author: J. Gallant [5/14/92]  
Desc: Two Changes for the CAM document  
Res: Accepted for CAM rev 3.0

X3T9.2/92-89 Date: 4/13/92 Author: D. Rundle [5/14/92]  
Desc: Status of IEC 48B Standards Efforts  
Res:

X3T9.2/92-90 Date: 4/27/92 Author: F. Crowell [5/14/92]  
Desc: Presentation Foils of Serial DS-Link Technology  
Res:

X3T9.2/92-91 Date: 4/8/92 Author: J. McGrath [5/14/92]  
Desc: Tolerance Analysis of P-cable Connection  
Res:

X3T9.2/92-92 Date: 4/28/92 Author: J. Lohmeyer [5/14/92]  
Desc: Letter to M. Freeman on Grass Roots  
Res:

X3T9.2/92-93 Rev 2 Date: 6/22/92 Author: B. Ham [7/15/92]  
Desc: SCSI-3 Connector Framework  
Res:

X3T9.2/92-94 Date: 3/13/92 Author: I. Dal Allan [5/14/92]  
Desc: Information Package on 1988 Connector Decision  
Res:

X3T9.2/92-95 Rev 1 Date: 5/14/92 Author: Lamers/Lohmeyer [5/14/92]  
Desc: Minutes of X3T9.2 Plenary Meeting #99  
Res:

X3T9.2/92-96 Date: 4/27/92 Author: T. Asami [5/14/92]  
Desc: Pin Capacitance of a SCSI Controller LSI  
Res:

X3T9.2/92-97 Date: 4/27/92 Author: B. Ham [5/14/92]  
Desc: Requirement for Glitch Free Power Up/Down  
Res:

X3T9.2/92-98 Date: 4/29/92 Author: M. Freeman [5/14/92]  
Desc: IEEE P1285 PAR  
Res:

X3T9.2/92-99 Date: 4/13/92 Author: I. Dal Allan [5/14/92]  
Desc: Connector Agenda Items  
Res:

X3T9.2/92-100 Date: 5/4/92 Author: Spence/Lamers [5/14/92]  
Desc: SPI Working Group Minutes for April 1992  
Res:

X3T9.2/92-101 Rev 1 Date: 5/1/92 Author: I. Dal Allan [5/14/92]  
Desc: Project Proposal for SCSI-3 Generic Packetized Protocol  
Res:

X3T9.2/92-102 Rev 1 Date: 5/1/92 Author: I. Dal Allan [5/14/92]  
Desc: Project Proposal for SCSI-3 Serial Bus Protocol  
Res:

X3T9.2/92-103 Rev 1 Date: 5/1/92 Author: I. Dal Allan [5/14/92]  
Desc: Project Proposal for SCSI-3 Fiber Channel Protocol  
Res:

X3T9.2/92-104 Date: 5/1/92 Author: I. Dal Allan [5/14/92]  
Desc: Project Proposal for SCSI-3 Architecture Model  
Res:

X3T9.2/92-105 Rev 1 Date: 8/29/92 Author: I. Dal Allan [9/15/92]  
Desc: Project Proposal for SCSI-3 Core Commands  
Res:

X3T9.2/92-106 Rev 1 Date: 8/29/92 Author: I. Dal Allan [9/15/92]  
Desc: Project Proposal for SCSI-3 Block Commands  
Res:

X3T9.2/92-107 Rev 1 Date: 8/29/92 Author: I. Dal Allan [9/15/92]  
Desc: Project Proposal for SCSI-3 Stream Commands  
Res:

X3T9.2/92-108 Rev 1 Date: 8/29/92 Author: I. Dal Allan [9/15/92]  
Desc: Project Proposal for SCSI-3 Graphic Commands  
Res:

X3T9.2/92-109 Rev 1 Date: 8/29/92 Author: I. Dal Allan [9/15/92]  
Desc: Project Proposal for SCSI-3 Medium Changer Commands  
Res:

X3T9.2/92-110 Date: 4/13/92 Author: D. Smythe [5/14/92]  
Desc: IDE (ATA) Document Changes  
Res:

X3T9.2/92-111 Rev 1 Date: 7/27/92 Author: Peter Dougherty [9/15/92]  
Desc: Additional ASC/ASCQ Codes for Data Compression  
Res: Accepted for SCSI-3 at August 92 plenary

X3T9.2/92-112 Date: 5/5/92 Author: Scott Smyers [5/14/92]  
Desc: Proposal for Alternate 68 Position P Connector  
Res:

X3T9.2/92-113 Date: 5/5/92 Author: John A. Gallant [5/14/92]  
Desc: April 28 SCSI-2 Queuing TIB Working Group Meeting Minutes  
Res:

X3T9.2/92-114 Date: 5/7/92 Author: Kurt Chan [5/15/92]  
Desc: Transceiver skew recommendations  
Res:

X3T9.2/92-115 Date: 5/7/92 Author: Kurt Chan [5/15/92]  
Desc: Cable length requirements  
Res:

X3T9.2/92-116 Rev 1 Date: 5/18/92 Author: Charles Monia [7/15/92]  
Desc: Pacetized SCSI System Models  
Res:

X3T9.2/92-117 Date: 5/18/92 Author: D. W. Spence [7/15/92]  
Desc: Fast SCSI Stubs Dimensions & Specifications Format  
Res:

X3T9.2/92-118 Date: 4/27/92 Author: Robert Herron [5/15/92]  
Desc: 3M Presentation on MDR Connector  
Res:

X3T9.2/92-119 Date: 5/14/92 Author: Thomas Newman [7/15/92]  
Desc: ATA Extensions Proposal -- ATA 68 Pin Connection  
Res:

X3T9.2/92-120 Date: 5/18/92 Author: John Geldman [7/15/92]  
Desc: Mapping the ATA Interface onto thd SFF 68-pin Connector  
Res:

X3T9.2/92-121 Date: 5/14/92 Author: Thomas Newman [7/15/92]  
Desc: ATA Command 0 (No Operation) Proposal  
Res:

X3T9.2/92-122 Date: 5/18/92 Author: D.W. Bill Spence [7/15/92]  
Desc: Proposal for Additional Annex for SPI Standard  
Res:

X3T9.2/92-123 Date: 5/14/92 Author: Kevin Gingerich [7/15/92]  
Desc: Proposed Change to SPI  
Res:

X3T9.2/92-124 Date: 5/15/92 Author: Steve Hunley [7/15/92]  
Desc: Proposed Change to SPI  
Res:

X3T9.2/92-125 Date: 5/14/92 Author: I. Dal Allan [7/15/92]  
Desc: Letter on Patents to Steve Cornaby  
Res:

X3T9.2/92-126 Date: 5/21/92 Author: L. Lamers [7/15/92]  
Desc: Minutes of the X3T9.2 May General Working Group  
Res:

X3T9.2/92-127 Date: 5/21/92 Author: Lamers/Spence [7/15/92]  
Desc: SPI Working Group Minutes for May 1992  
Res:

X3T9.2/92-128 Date: 5/27/92 Author: Rich Mizia [7/15/92]  
Desc: Raw Cable Impedance and Bend Radius Test Results  
Res:

X3T9.2/92-129 Date: 5/26/92 Author: R. Whiteman [7/15/92]  
Desc: P-Cable connector dimension & tolerance study  
Res:

X3T9.2/92-130 Rev 2 Date: 11/6/92 Author: Kyle Robison [1/15/93]  
Desc: Synchronization Status & Errors  
Res: accepted for SCSI-3

X3T9.2/92-131 Rev 1 Date: 8/13/92 Author: S. Smyers [9/15/92]  
Desc: A Common Command Unit Architecture  
Res:

X3T9.2/92-132 Date: 6/4/92 Author: Lynn Barra [7/15/92]  
Desc: Transmittal of Public Review Comment #2 (ATA)  
Res:

X3T9.2/92-133 Rev 4 Date: 11/16/92 Author: Scott Smyers [1/15/93]  
Desc: Disconnect control on initial connection  
Res:

X3T9.2/92-134 Rev 1 Date: 8/4/92 Author: Jeffrey Williams [9/15/92]  
Desc: Response to 92-111  
Res: Accepted for SCSI-3 at August '92 plenary

X3T9.2/92-135 Date: 7/20/92 Author: Ed Gardner [9/15/92]  
Desc: SCSI-3 Serial Bus Protocol (SBP)  
Res:

X3T9.2/92-136 Date: 6/19/92 Author: H. Waltersdorf & S. Roland [7/15/92]  
Desc: Internal Non-Shielded Connectors  
Res:  
X3T9.2/92-137 Date: 5/19/92 Author: B. Ham [7/15/92]  
Desc: Hot Plugging Requirements for SPI  
Res:

X3T9.2/92-138 Rev 1 Date: 6/23/92 Author: B. Ham [7/15/92]  
Desc: Single SCSI cable for all forms of SCSI  
Res:

X3T9.2/92-139 Rev 1 Date: 8/11/92 Author: S. Cornaby [9/15/92]  
Desc: Appendix for SPI on Unitized Connector  
Res:

X3T9.2/92-140 Date: 6/10/92 Author: Lynn Barra [7/15/92]  
Desc: Transmittal of Public Review Comment #3 (ATA)  
Res:

X3T9.2/92-141 Rev 5 Date: 10/10/92 Author: G. Penokie [11/15/92]  
Desc: SCSI-3 Queuing Model  
Res:

X3T9.2/92-142 Date: 6/23/92 Author: J. P. McGrath [9/15/92]  
Desc: ATA Public review comments  
Res:

X3T9.2/92-143 Date: 6/23/92 Author: J. P. McGrath [9/15/92]  
Desc: Capacitance on SCSI Signal Lines  
Res:

X3T9.2/92-144 Date: 6/25/92 Author: L. Lamers [7/15/92]  
Desc: Minutes of X3T9.2 Plenary Meeting #100  
Res:

X3T9.2/92-145 Date: Author: John Scheible [9/15/92]  
Desc: SCSI mapping for SSA  
Res:

X3T9.2/92-146 Date: 7/15/92 Author: Lynn Barra [9/15/92]  
Desc: Public Review Comment #1 on SCSI-2  
Res:

X3T9.2/92-147 Date: 8/21/92 Author: Del Shoemaker [9/15/92]  
Desc: Response to SCSI-2 Public Review Comment #1  
Res:

X3T9.2/92-148 Rev 2 Date: 7/21/92 Author: D. Steele [9/15/92]  
Desc: Active Negation Driver Requirements for SPI  
Res:

X3T9.2/92-149 Rev 1 Date: Author: John Geldman [9/15/92]  
Desc: Demand Mode DMA ATA  
Res:

X3T9.2/92-150 Rev 1 Date: Author: Tom Debiec [11/15/92]  
Desc: Cable Document  
Res:

X3T9.2/92-151 Date: 7/17/92 Author: Mehran Raezani [9/15/92]  
Desc: Two new commands for ATA  
Res:

X3T9.2/92-152 Date: 7/20/92 Author: Mehran Ramezani [9/15/92]  
Desc: DMA Timing Changes In ATA  
Res:

X3T9.2/92-153 Date: 7/18/92 Author: Edward A. Gardner [9/15/92]  
Desc: Comments on Blind-pluggable Connector  
Res:

X3T9.2/92-154 Rev 1 Date: 10/15/92 Author: J. Gallant [11/15/92]  
Desc: Extensions to the Common Access Method (CAM-2)  
Res:

X3T9.2/92-155 Date: 7/21/92 Author: C. Mosley [9/15/92]  
Desc: Connector Requirements  
Res: Accepted for inclusion in SCSI-3 August 92.

X3T9.2/92-156 Date: 7/18/92 Author: Florin Oprescu [9/15/92]  
Desc: SCSI Termination Sensing Proposal  
Res:

X3T9.2/92-157 Rev 5 Date: 9/21/92 Author: Shashir Shah [11/15/92]  
Desc: LBA address for ATA  
Res:

X3T9.2/92-158 Date: 7/23/92 Author: L. Lamers [9/15/92]  
Desc: Minutes of July 1992 General Working Group  
Res:

X3T9.2/92-159 Date: 7/30/92 Author: D.W. Spence [9/15/92]  
Desc: SPI Working Group Minutes  
Res:

X3T9.2/92-160 Date: Author: Dean Wallace [11/15/92]  
Desc: TI Constant Current Mode Terminator  
Res:

X3T9.2/92-161 Date: Author: Florin Opreescu [9/15/92]  
Desc: Termination Sensing Proposal  
Res:

X3T9.2/92-162 Rev 1 Date: 7/31/92 Author: G. Houlder [9/15/92]  
Desc: New ASC/ASCQ for Power-on Reset  
Res:

X3T9.2/92-163 Date: 8/18/92 Author: Charles Monia [9/15/92]  
Desc: Domain Definitions and Linked Commands (SAM)  
Res:

X3T9.2/92-164 Rev 1 Date: 9/14/92 Author: J. Williams [11/15/92]  
Desc: Request for Addition of New Density Codes  
Res:

X3T9.2/92-165 Date: 8/18/92 Author: R. Gannon [11/15/92]  
Desc: Serial Cable Prototypes  
Res:

X3T9.2/92-166 Date: 8/18/92 Author: L. Lamers [9/15/92]  
Desc: X3T9.2 Meeting #101 Minutes  
Res:

X3T9.2/92-167 Date: 8/18/92 Author: J. Lohmeyer [9/15/92]  
Desc: Proposed SPARC Policy on Conformance Testing  
Res:

X3T9.2/92-168 Date: 8/17/92 Author: J. P. McGrath [9/15/92]  
Desc: ATA Download Microcode Command  
Res:

X3T9.2/92-169 Date: 8/18/92 Author: R. Bailly [9/15/92]  
Desc: Conformance Testing Presentation  
Res:

X3T9.2/92-170 Date: 8/15/92 Author: D. Allan [9/15/92]  
Desc: SFF pinouts for SPI annexes  
Res:

X3T9.2/92-171 Date: 8/18/92 Author: E. Gardner [ ]  
Desc: Presentation on SBP at August Plenary  
Res:

X3T9.2/92-172 Date: 8/20/92 Author: L. Lamers [9/15/92]  
Desc: Letter to K. McMillan on Letter Ballot Proceedure  
Res:

X3T9.2/92-173 Date: 8/20/92 Author: L. Lamers [9/15/92]  
Desc: Letter to K. McMillan on E-mail use  
Res:

X3T9.2/92-174 Date: 8/20/92 Author: M. Freeman [9/15/92]  
Desc: Minutes of July 13, 1992 Grass Roots Meeting  
Res:

X3T9.2/92-175 Date: 8/26/92 Author: J. Lohmeyer [9/15/92]  
Desc: Letter Ballot  
Res:

X3T9.2/92-176 Date: 8/26/92 Author: J. Lohmeyer [9/15/92]  
Desc: Letter Ballot  
Res:

X3T9.2/92-177 Date: 8/26/92 Author: J. Lohmeyer [9/15/92]  
Desc: Letter Ballot  
Res:

X3T9.2/92-178 Date: 8/26/92 Author: J. Lohmeyer [9/15/92]  
Desc: Letter Ballot  
Res:

X3T9.2/92-179 Date: 8/26/92 Author: J. Lohmeyer [9/15/92]  
Desc: Letter Ballot  
Res:

X3T9.2/92-180 Date: 8/26/92 Author: J. Lohmeyer [9/15/92]  
Desc: Letter Ballot  
Res:

X3T9.2/92-181 Date: 8/27/92 Author: D.W. Spence [9/15/92]  
Desc: Terminator & Driver Characteristics  
Res:

X3T9.2/92-182 Rev 2 Date: 10/30/92 Author: R. Snively [11/15/92]  
Desc: SCSI-3 Fiber Channel Protocol  
Res:

X3T9.2/92-183 Date: 6/23/92 Author: J. W. McGrath [9/15/92]  
Desc: Current Sink for ATA drivers Operating at 3.3 volts  
Res:

X3T9.2/92-184 Date: 9/16/92 Author: G. Penokie [11/15/92]  
Desc: Codes, ASC, ASCQ, & Values Committed in SCSI-3  
Res:

X3T9.2/92-185 Date: 9/15/92 Author: L. Leach [11/15/92]  
Desc: Format Track Definition for ATA  
Res:

X3T9.2/92-186 Date: 12/8/92 Author: J. Lohmeyer [11/15/92]  
Desc: Response to Public Review Comment #1 on BSR X3.221, ATA  
Res:

X3T9.2/92-187 Date: 12/8/92 Author: J. Lohmeyer [11/15/92]  
Desc: Response to Public Review Comment #2 on BSR X3.221, ATA  
Res:

X3T9.2/92-188 Date: 12/8/92 Author: J. Lohmeyer [11/15/92]  
Desc: Response to Public Review Comment #3 on BSR X3.221, ATA  
Res:

X3T9.2/92-189 Date: 12/8/92 Author: J. Lohmeyer [11/15/92]  
Desc: Response to Unregistered Public Review Comment on BSR X3.221, ATA  
Res:

X3T9.2/92-190 Date: 12/8/92 Author: J. Lohmeyer [11/15/92]  
Desc: Response to Unregistered Public Review Comment on BSR X3.221, ATA  
Res:

X3T9.2/92-191 Date: 12/8/92 Author: J. Lohmeyer [11/15/92]  
Desc: Response to Unregistered Public Review Comment on BSR X3.221, ATA  
Res:

X3T9.2/92-192 Date: 9/22/92 Author: J. Lohmeyer [11/15/92]  
Desc: Jeopardy Letter for September 1992  
Res:

X3T9.2/92-193 Date: 9/25/92 Author: Lamers/Lohmeyer [11/15/92]  
Desc: Minutes of ATA September '92 Working Group Meeting  
Res:

X3T9.2/92-194 Date: 9/25/92 Author: Lamers/Lohmeyer [11/15/92]  
Desc: Minutes of X3T9.2 September '92 Working Group Meeting  
Res:

X3T9.2/92-195 Date: 10/9/92 Author: Dal Allan [11/15/92]  
Desc: Small Form Factor ATA Annex  
Res:

X3T9.2/92-196 Date: 10/9/92 Author: Dal Allan [11/15/92]  
Desc: Small Form Factor SPI Annex  
Res:

X3T9.2/92-197 Date: 10/12/92 Author: Dennis Pak [11/15/92]  
Desc: IEEE P1285 Liaison Report  
Res:

X3T9.2/92-198 Date: 10/9/92 Author: John Lohmeyer [11/15/92]  
Desc: Proposal for Funding X3T9.2 Technical Editors  
Res:

X3T9.2/92-199 Date: 10/12/92 Author: Gerald Marazas [11/15/92]  
Desc: SCSI-3 Serial Bus Protocol  
Res:

X3T9.2/92-200 Date: 10/15/92 Author: Lamers/Lohmeyer [11/15/92]  
Desc: Minutes of X3T9.2 Meeting #102  
Res:

X3T9.2/92-201 Date: 9/8/92 Author: Daniel Arnold [11/15/92]  
Desc: OASIS Update  
Res:

X3T9.2/92-202 Rev 1 Date: 10/12/92 Author: Charles Monia [11/15/92]  
Desc: SAM Addressing Proposal  
Res:

X3T9.2/92-203 Date: 10/15/92 Author: Lamers/Spence [11/15/92]  
Desc: SPI Working Group Minutes for October 1992  
Res:

X3T9.2/92-204 Rev 2 Date: 12/7/92 Author: Lamers/Freeman [11/15/92]  
Desc: Minutes of Grass Roots Meeting #2 -- October 1, 1992  
Res:

X3T9.2/92-205 Date: 10/19/92 Author: l. lamers [11/15/92]  
Desc: ATA letter ballot on pr responses  
Res:

X3T9.2/92-206 Date: 10/19/92 Author: L. Lamers [11/15/92]  
Desc: CAM-2 letter ballot  
Res:

X3T9.2/92-207 Date: 10/29/92 Author: L. Lamers [11/15/92]  
Desc: Letter on International Participation Fee  
Res:

X3T9.2/92-208 Date: 10/22/92 Author: D. Arnold [11/15/92]  
Desc: Call for X3T9.2 Chairmen  
Res:



X3T9.2/92-209 Date: 10/22/92 Author: D. Arnold [11/15/92]  
Desc: Call for X3T9.2 Vice-Chairman  
Res:

X3T9.2/92-210 Date: 11/5/92 Author: Tom Debiec [11/15/92]  
Desc: Proposed Cable Preparation Procedure  
Res:

X3T9.2/92-211 Date: 11/3/92 Author: J. Lohmeyer [11/15/92]  
Desc: Jeopardy Letter  
Res:

X3T9.2/92-212 Date: 9/28/92 Author: Junzo Neriishi [11/15/92]  
Desc: Request for Interpretation - SCSI-2 Synch Transfers  
Res:

X3T9.2/92-213 Date: 10/29/92 Author: J. Scheible [11/15/92]  
Desc: Project Proposal for Serial Storage Architecture - Physical (SSA-PH)  
Res:

X3T9.2/92-214 Date: 11/10/92 Author: R. DeKonig [1/15/93]  
Desc: Queue Full Handling  
Res:

X3T9.2/92-215 Date: 10/10/92 Author: B. Ham [1/15/93]  
Desc: 50 line to 68 line connections for SPI  
Res:

X3T9.2/92-216 Date: 11/10/92 Author: B. Ham [1/15/93]  
Desc: Where does SPI really fit in SCSI  
Res:

X3T9.2/92-217 Date: 11/10/92 Author: G. Milligan [1/15/93]  
Desc: SCSI Caching Large Segment Control  
Res:

X3T9.2/92-218 Rev 1 Date: 11/10/92 Author: G. Milligan [1/15/93]  
Desc: Global Logging Target Save Disable Bit  
Res: recommended for inclusion in SCSI-3

X3T9.2/92-219 Rev 1 Date: 12/3/92 Author: T. Asami [1/15/93]  
Desc: Proposal for Hot Plug Leakage Current Specification  
Res:

X3T9.2/92-220 Date: 11/6/92 Author: J. Goldie [1/15/93]  
Desc: Differential Test Circuit Modifications  
Res:

X3T9.2/92-221 Date: Author: J. Geldman [1/15/93]  
Desc: Resolving the ATA Multi-word DMA Timing  
Res:

X3T9.2/92-222 Date: 11/13/92 Author: Lamers/Allan [1/15/93]  
Desc: Minutes of ATA November '92 Working Group Meeting  
Res:

X3T9.2/92-223 Date: 11/13/92 Author: Lamers/Penokie [1/15/93]  
Desc: Minutes of RAID October '92 Study Group Meeting  
Res:

X3T9.2/92-224 Date: 11/13/92 Author: Lamers/Lohmeyer [1/15/93]  
Desc: Minutes of October '92 General Working Group Meeting  
Res:

X3T9.2/92-225 Date: 11/30/92 Author: R. Weber [1/15/93]  
Desc: SCSI-3 Primary Commands - Working Document Outline  
Res:

X3T9.2/92-226 Date: 11/30/92 Author: R. Weber [1/15/93]  
Desc: SCSI-3 Primary Commands - Approved Additions  
Res:

X3T9.2/92-227 Rev 2 Date: 12/7/92 Author: C. Monia [1/15/93]  
Desc: Revised SAM Model  
Res:

X3T9.2/92-228 Date: 12/8/92 Author: E. Gardner [1/15/93]  
Desc: SCSI-3 SBP Tap Fetch Ordering Example  
Res:

X3T9.2/92-229 Date: 12/10/92 Author: Lamers/Lohmeyer [1/15/93]  
Desc: Minutes of X3T9.2 Plenary Meeting #103  
Res:

X3T9.2/92-230 Date: 12/7/92 Author: Lamers/Penokie [1/15/93]  
Desc: Minutes of X3T9.2 RAID Study Group Meeting #2  
Res:

X3T9.2/92-231 Date: 12/5/92 Author: G. Stephens [1/15/93]  
Desc: SCSI-2 Options Selection Document  
Res:

X3T9.2/92-232 Date: 12/7/92 Author: D. Pak [1/15/93]  
Desc: IEEE P1285 Liason Report  
Res:

X3T9.2/92-233 Date: Author: J. Scheible [1/15/93]  
Desc: SSA Liason Report  
Res:

X3T9.2/92-234 Date: 12/8/92 Author: D.W. Spence [1/15/93]  
Desc: Test Procedure - Maximum Signal Capacitance  
Res:

X3T9.2/92-235 Date: 12/8/92 Author: L. Lamers [1/15/93]  
Desc: Clarification of Synchronous Handshake  
Res:

X3T9.2/92-236 Date: 12/9/92 Author: D.W. Spence [1/15/93]  
Desc: Test Procedure for Maximum Signal Capacitance  
Res:

X3T9.2/92-237 Date: 12/9/92 Author: D.W. Spence [1/15/93]  
Desc: Proposed New Wording for Terminator Power  
Res:

X3T9.2/92-238 Date: 12/10/92 Author: B. Dallas [1/15/93]  
Desc: CAM-2 Study Group Report  
Res:

X3T9.2/92-239 Date: 12/3/92 Author: Gerald B. Rosenberg [1/15/93]  
Desc: PraireTek Patents/ANSI Patent Policy  
Res:

X3T9.2/92-240 Date: 11/11/92 Author: Chuck Duquette [1/15/93]  
Desc: Letter to CBEMA on US Design SCSI-2 Comment  
Res: