

X3T10/95-219r0

**Project Proposal
For a New
X3 Standard**

**AT Attachment + Packet Interface
(ATA + PI)**

May 11, 1995

1. IDENTIFICATION OF PROPOSED PROJECT

- 1.1 TITLE: AT Attachment + Packet Interface (ATA + PI)**
- 1.2 PROPOSER: X3T10**
- 1.3 DATE SUBMITTED: May 11, 1995**
- 1.4 PROJECT TYPE: D - Development of standards within an X3 TC.**

2. JUSTIFICATION OF PROPOSED STANDARD

2.1 NEEDS:

The standard for AT Attachment and ATA-2 have been completed. As the popularity of the ATA interface has increased, its application area has grown outside the originally intended purpose of direct attachment of small disk drives to desktop computers. There is a need to allow attachment of non-disk drive devices (e.g. CD-ROMs and tape drives) to systems via the ATA interface. There is also a need to continue to further improve the ATA interface for its use with disk drives. ATA + PI is intended to satisfy both needs.

2.2 RECOMMENDED SCOPE OF STANDARD:

The proposed ATA + PI standard maintains a high degree of compatibility with the existing ATA interface and migrates the interface to meet the needs in an evolutionary way. ATA + PI is primarily intended to be a low-cost, efficient device interface that incorporates support for other types of devices (e.g. CD-ROM and tape drives).

The goals of ATA + PI are:

- a) reduced complexity by removing unused functions and features;
- b) enhance compatibility through improved documentation of registers, commands, and protocol.
- c) investigate increased transfer rates;
- d) address issues related to data integrity at higher transfer rates;
- e) extend the use of ATA to support devices other than traditional ATA devices;
- f) provide a means to transfer SCSI commands for these new devices through the definition of a packet protocol;
- g) investigate enhancements to provide overlapped commands using a multi-thread protocol;
- h) allow prior ATA devices to exist on an ATA + PI physical cable;
- i) allow ATA disk drives, CD-ROMs, tape drives, and other ATA+PI devices to exist on an ATA + PI physical cable.

This proposed standard will not define the packet command sets; these are separate projects.

2.3 EXISTING PRACTICE IN AREA OF PROPOSED STANDARD:

The proposed project involves evolutionary expansion of the draft ATA-2 standard to provide additional capabilities.

2.4 EXPECTED STABILITY OF PROPOSED STANDARD WITH RESPECT TO CURRENT AND POTENTIAL TECHNOLOGICAL ADVANCE:

The nature of the proposed project is to ensure that the AT Attachment has an upward, compatible growth path. This will ensure that current investments in AT Attachment are provided with more stability in the face of technological developments.

3. DESCRIPTION OF PROPOSED PROJECT:

3.1 TYPE OF DOCUMENT: Standard.

3.2 DEFINITION OF CONCEPTS AND SPECIAL TERMS: None.

3.3 EXPECTED RELATIONSHIP WITH APPROVED X3 REFERENCE MODELS:

The ATA + PI standard is for use in closed systems.

3.4 RECOMMENDED PROGRAM OF WORK:

The following program of work is planned for the ATA + PI standard:

- 1) Solicit continuing participation by the present AT Attachment participants through X3 procedures and new participants through press releases. Invite comments by end-user organizations and invite proposals from organizations that may have a contribution to a viable ATA + PI standard.
- 2) Establish functional requirements for ATA + PI.
- 3) Prepare a draft proposed standard based on proposals submitted and other information gathered during the initial investigation.
- 4) Consider the results of ATA + PI testing as may be available to the committee through the voluntary efforts of the various participants in the X3T10 working group.
- 5) Submit the draft proposed standard to X3 for further processing.

3.5 RESOURCES - INDIVIDUALS AND ORGANIZATIONS COMPETENT IN SUBJECT MATTER:

The current membership of the X3T10 ATA Working Group includes representatives from all parts of the computer industry from semiconductor chip manufacturers to large mainframe system manufacturers as well as Government agencies. These members have expressed their desire to participate and cooperate in the development of this proposed standard.

There are sufficient resources to complete the development of this standard without delaying work on other standards, however, the scope of X3T10's work has grown so diverse as to justify the creation of a new technical committee to be responsible for ATA projects.

3.6 RECOMMENDED X3 DEVELOPMENT TECHNICAL COMMITTEE:

It is recommended that the development work be done in a new Technical Committee which will be responsible for the development of the ATA projects, including the current projects within X3T10 related to ATA. If the new technical committee is not approved the work should be assigned to X3T10.

3.7 ANTICIPATED FREQUENCY AND DURATION OF MEETINGS:

The new Technical Committee would meet bi-monthly. Specific task ad hoc groups will be called as may be required for one to three days between the regular meetings but their results are not binding.

3.8 TARGET DATE FOR dpANS TO X3: June 1996

3.9 ESTIMATED USEFUL LIFE OF STANDARD:

It is anticipated that this standard will have a life of over 5 years.

4. IMPLEMENTATION IMPACTS

4.1 IMPACT ON EXISTING USER PRACTICES AND INVESTMENTS:

The proposed ATA + PI standard will provide an upward growth path complementary to the existing practices and investments. It is likely that any isolated negative impacts would occur in any case through non-standard evolution or revolution.

4.2 IMPACT ON SUPPLIER PRODUCTS AND SUPPORT:

The proposed ATA + PI standard will provide an upward growth path complementary to the existing practices and investments. It is likely that any isolated negative impacts would occur in any case through non-standard evolution or revolution.

4.3 TECHNIQUES AND COSTS FOR COMPLIANCE VERIFICATION:

The committee will consider the results of ATA + PI testing as may be available to the committee through the voluntary efforts of the various participants. With this method all costs are borne by the organizations of the various participants and have for the most part been mainly an adjunct of their normal development costs.

4.4 LEGAL CONSIDERATIONS:

There are no known legal considerations. A Call for Patents will be made.

5. CLOSELY RELATED STANDARDS ACTIVITIES**5.1 EXISTING STANDARDS:**

AT Attachment Interface -- ANSI X3.221-1994.

5.2 X3 STANDARDS DEVELOPMENT PROJECTS:

ATA Extensions -- Project 948-D.

ATA-3 -- Project 2008.

ATAPI -- Project 1120.

5.3 X3 STUDY GROUPS: None.**5.4 OTHER RELATED DOMESTIC STANDARDS EFFORTS: None.****5.5 ISO/IEC JTC 1 STANDARDS DEVELOPMENT PROJECTS:**

This standard will be considered for proposal to JTC1/SC25/WG4. However, their position as of the last meeting was that ANS's for internal peripheral interfaces was sufficient.

5.6 OTHER RELATED INTERNATIONAL STANDARDS DEVELOPMENT PROJECTS: None.**5.7 RECOMMENDATIONS FOR COORDINATING LIAISON: None.****5.8 RECOMMENDATIONS FOR CLOSE LIAISON: X3T10.**