**Project Proposal
For a New
X3 Standard**

SCSI-3 Parallel Interface - 2

(SPI-2)

July 13, 1995

1. IDENTIFICATION OF PROPOSED PROJECT

1.1 TITLE: SCSI-3 Parallel Interface - 2 (SPI-2).

1.2 PROPOSER: X3T10.

1.3 DATE SUBMITTED: July 13, 1995

1.4 PROJECT TYPE: D - Development of a standard within an X3 TC.

2. JUSTIFICATION OF PROPOSED STANDARD

2.1 NEEDS:

The SCSI-3 Parallel Interface (SPI) standard has recently been approved. There is a continuing need to evolve and enhance SCSI physical-level features. The proposed SPI-2 standard would add a number of new features.

A particular need to be addressed by the SPI-2 project is to develop a new driver/receiver technology that can extend SCSI data rates above 20 mega-repetitions per second.

2.2 RECOMMENDED SCOPE OF STANDARD:

The SPI-2 standard will define a physical layer that will support the SCSI-3 Interlocked Protocol (SIP) transport layer and the command sets above it, while maintaining a high degree of compatibility with the current SPI standard.

Candidates for inclusion in the SPI-2 draft standard are:
- a)   definition of a new driver/receiver technology to 1) increase data rates, 2) enhance signal margins, 3) enhance cable lengths, and 4) increase device counts.
- b)   enhancements to the physical layer to reduce power consumption and to address emerging market for lower voltage devices.
- c)   Maintenance of the SCSI physical level standard that may result from further implementation of the SPI standard.
- d)   Other capabilities which fit within the general application scope of the SCSI physical level that may be proposed during the development phase by the participants in the project.

This proposed standard is not intended to address areas above the physical level (such as protocol and command sets).

2.3 EXISTING PRACTICE IN AREA OF PROPOSED STANDARD:

The proposed project involves evolutionary expansion of the present SPI standard.

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

The nature of the proposed project is to insure that SCSI has an upward, highly compatible growth path. This will insure that current investments in SCSI 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 SPI-2 standard is intended for use in closed systems.

3.4 RECOMMENDED PROGRAM OF WORK:

The following program of work is planned for the SPI-2:

(1)   Solicit continuing participation by the current membership of X3T10 through X3 procedures. Invite comments and proposals from organizations that may have a contribution to the SPI-2 standard.

(2)   Prepare a draft proposed standard based on proposals submitted and other information gathered during the initial investigation.

(3)   Consider the results of SPI-2 testing as may be available to the committee through the voluntary efforts of the X3T10 membership.

(4)   Submit the draft proposed standard to X3 for further processing.

3.5 RESOURCES - INDIVIDUALS AND ORGANIZATIONS COMPETENT IN THE SUBJECT MATTER:

The current membership of X3T10 includes representatives from all parts of the computer industry, from semiconductor chip manufacturers to large mainframe system manufacturers as well as government agencies. The members of X3T10 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 projects.

3.6 RECOMMENDED X3 DEVELOPMENT TECHNICAL COMMITTEE:

It is recommended that the development work be done in Technical Committee X3T10 which is responsible for developing the family of SCSI standards.

3.7 ANTICIPATED FREQUENCY AND DURATION OF MEETINGS:

Technical Committee X3T10 meets bimonthly. Specific task ad hoc groups are 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: July 1997.

3.9 ESTIMATED USEFUL LIFE OF STANDARD:

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

4. IMPLEMENTATION IMPACTS

4.1 IMPACT ON EXISTING USER PRACTICES AND INVESTMENTS:

The proposed SPI-2 standard will provide an evolutionary growth path 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 SPI-2 standard will provide an evolutionary growth path 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 SPI-2 testing as may be available to the committee through the voluntary efforts of the various participants in X3T10. 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:

> None.

5.2 X3 STANDARDS DEVELOPMENT PROJECTS:

BSR Number	Title	Project
X3.253-199x	SCSI-3 Parallel Interface	
X3.277-199x	SCSI-3 Fast-20	

5.3 X3 STUDY GROUPS: None.

5.4 OTHER RELATED DOMESTIC STANDARDS EFFORTS: None.

5.5 ISO/IEC JTC 1 STANDARDS DEVELOPMENT PROJECTS: SPI, and Fast-20 are being processed as a NWI at JTC1/SC25/WG4. It is anticipated that SPI-2 will be proposed to JTC1/SC25/WG4.

5.6 OTHER RELATED INTERNATIONAL STANDARDS DEVELOPMENT PROJECTS: None.

5.7 RECOMMENDATIONS FOR COORDINATING LIAISON: None.

5.8 RECOMMENDATIONS FOR CLOSE LIAISON: None.