Accredited Standards Committee*
X3, Information Processing Systems

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Reply to:	Mr. Edward Gardner, Mr. Lawrence Lamers, or Mr. John Lohmeyer

To: X3T10 Membership
From: Edward Gardner, Lawrence Lamers, and John Lohmeyer
Subject: Proposed SCAM Changes

At the Harrisburg meeting, Ed Gardner presented several proposed changes to the SCAM protocol. Most were editorial and some were improvements to address issues identified as SCAM protocol has been implemented. Rather than accepting the changes at the meeting with no specific wording, it was suggested that the changes be documented in a proposal for consideration at the July meeting in Bedford.

This document contains the proposed changes embedded into a document ready to drop into SPI as a replacement for the SCAM annex (Annex B of SPI). In addition to the changes proposed by Ed, there has been significant editorial work performed to normalized the SCAM protocol wording with SPI terminology.

The key non-editorial changes are:

1) SCAM masters that arbitrate without an ID are required to check the MSG and DATA BUS signals prior to generating a normal selection. If any of these signals are true, then another SCAM master also won arbitration. SCAM masters recognizing the condition are required to release the bus if a data signal is true and are required to enter SCAM protocol if the MSG signal is true.

2) A 'Configuration Process Complete' function code (00011b) was added. Level 2 SCAM masters are required to output this function code when they have finished assigning SCSI IDs. If a SCAM slave receives this function code and has not been assigned an SCSI ID, it goes off-line (that is, does not respond to selections even if they are longer than 4 ms).

3) Level 1 SCAM masters are required to recognize and respond to the Dominant Master Contention function. [Ed contents that 93-109r5 already requires this behavior, but it has been made more explicit.]

4) A section was added stating how to do software wired-OR glitch filtering per the recommendations in 93-173.

5) It was clarified that all SCAM devices participate in transfer cycle handshaking even when they are deferring per 93-173.

6) An implementation note was added recommending that the vendor unique code in the SCAM string be in displayable ASCII (to facilitate display for human viewing).

Some key editorial changes include:

1) The 'Assign ID' function code was renamed 'Isolate'; the 'Set Priority Flag' function code was renamed 'Isolate & Set Priority Flag'.

2) The terminology surrounding IDs was modified to align better with the MODE SELECT terminology. This is to avoid inconsistent usage of the term 'default'. Thus the 'default ID' terminology was changed to 'current ID'. Current IDs may be confirmed or unconfirmed, or invalid.

Please review this document as a motion to substitute it for the current SCAM annex is anticipated for the July meeting.