To: **T10 Committee**
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Subj: **Inconsistent usage of "assertion and negation" in training pattern section of SPI-4**
Date: **March 12, 2002**

At least one engineer at my company is questioning the intent of some wording in SPI-4, section 10.7.4. There is enough question that an editorial change should be made. The question is which editorial change.

in section 10.7.4.2.2, After the words "Start of section A:", there is this example of normal wording for an assertion and negation requirement:
...
8) simultaneously assert and negate REQ, P1, P_CRCA, and DB(15-0) signals at the negotiated transfer period 64 times, (e.g., (2 x 6,25 ns) x 64 = 800 ns at fast-160);
...

This example is representative of most phrases that include the words "assert and negate". This usage of "64 times" describes 64 cycles (64 assertions and 64 negations) of the referenced signals.

Now compare that usage with section 10.7.4.3.3, after the words "SCSI target ports shall begin pacing transfers by:"
...
1) simultaneously with the assertion of REQ the SCSI target port shall begin asserting and negating P1 at twice the negotiated transfer period (e.g., 12,5 ns for fast-160);
2) SCSI target port shall assert and negate P1 at least 8 times (e.g., (2 x 6,25 ns) x 8 = 100 ns at fast-160); and
....

Note that this wording says "assert and negate ... 8 times" but the 100ns timing value only allows for 4 assertions and 4 negations of P1 for the frequency it must operate at. This is inconsistent editorial use of the "assert and negate x times" phrase.

Discussion at the SPI working group on 3/12/2002 can to a consensus that "8 cycles" was the intended requirement. Thus the sentence needs to be fixed as shown between the <> markers:

2) SCSI target port shall assert and negate P1 at least 8 times (e.g., < (2 x 12,5 ns) x 8 = 200 ns > at fast-160); and