

To: Membership of X3T10  
From: Bill Galloway  
          Compaq  
Subject: Synchronous period tolerance  
Date: July 18, 1994

Most SCSI devices generate synchronous REQ/ACK pulses by counting a small number of periods from a precision oscillator. No oscillator is perfect so the REQ/ACK pulses may be generated with a period less than the negotiated period. SPI (12c) does not allow for any synchronous period tolerance, therefore, most synchronous SCSI devices are out of compliance with SPI.

I propose the following changes to Section 9 of SPI to give target and initiator vendors guidance on the amount of tolerance allowed for successful data transfers.

Change Section 9 third paragraph (page 30) to:

Fast data transfers require a negotiated transfer period greater than or equal to 100ns and less than 200ns with a REQ/ACK offset greater than zero. If fast data transfers are agreed upon, fast timing shall be observed even though the actual data transfer period is greater than or equal to 200ns.

Change Section 9 fourth paragraph (page 30) to:

Slow data transfers require a negotiated transfer period greater than or equal to 200ns with a REQ/ACK offset greater than zero.

Add to Table 10 (page 30)

Receive Period Tolerance.....	0,5%	0,5%	n/a
Transmit Period Tolerance.....	0,25%	0,25%	n/a

Add following sections to Section 9:

9.x Receive period tolerance

The minimum tolerance that an SCSI device shall allow to be subtracted from the negotiated synchronous period.

9.x Transmit period tolerance

The maximum tolerance that an SCSI device shall subtract from the negotiated synchronous period.

