

X3T9.2/93 -113

To: scsi reflector
cc:
From: Gerry Houlder
Date: 06/09/93 08:32:24 AM
Subject: SPI rev.12 review comment

I have noticed that the SPI rev. 12 document no longer addresses the subject of signal restrictions between phases. It does have wording in section 10.11 (Information Transfer), sixth paragraph that says "The control signals shall be valid before the assertion of the REQx signal of the first RAT and remain valid until after the negation of the ACKx signal of the RAT of the last transfer of the service".

From this, it is not clear that the control signals are not allowed to change during the phase. It would be more clear if the following wording change was made: change ".. remain valid until after the negation of the ACKx signal.." to "remain unchanged until after the negation of the ACKx signal ..".

I bring this up because of an interesting interpretation of the "signal restrictions between phases" (6.1.10 in SCSI-2 rev. 10k) wording. Item (a) says that BSY, SEL, REQ, and ACK shall not change, but it doesn't specify whether they are supposed to be asserted or deasserted. During synchronous data transfer, the leading edges of the REQ and ACK pulses are the important events in the transfer. If the initiator holds the last ACK active for a period of time during DATA IN transfer, can the target change to the next phase anyway, even though ACK is active? It can be argued that the handshake is completed by receiving the leading edge of ACK, so the target can change the control line to STATUS phase (for instance) even though ACK is active and "not changing".

I believe the committee intended to require that BSY be active and SEL, REQ, and ACK all be inactive before allowing the control lines to change. For synchronous transfers the REQ/ACK offset count must also be 0 (I can't find specific wording on that but I believe it should be required). I think my proposed wording change will at least plug the hole for SCSI-3.