X3T9.2/93-051

TANDBERG DATA **FAX FORM**

TO:NCR Corporation, Colo Spgs	**FAX NO: +1 719 597 8225**
ATT: John Lohmeyer	
URGENT:Yes	**DATE: January 6, 1993**
FROM:Irene Larsen	**DATA STORAGE DIVISION** **FAX NO: + 47 2 18 95 50**
SUBJECT:SCSI standard	**COPY:**
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Dear Mr. Lohmeyer

I have a question regarding the SCSI-2 standard which I hope you can answer.

Section 5.1.5.1 of the standard describes asynchronous information transfer. It says that when transferring data to the target, the target shall first assert REQ. The initiator shall drive the DB signals, delay at least one deskew delay plus a cable skew delay and assert the ACK signal.
Does this mean that it has to be at least a deskew delay plus a cable skew delay between REQ asserted to ACK asserted? Or could it be less as long as the data bus is driven at least a deskew plus a cable skew delay before ACK is asserted?

Kind Regards
Irene Larsen

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January 6, 1993

Dear Ms. Larsen,

My *personal opinion* on your question is that the deskew delay plus cable skew cable exist to insure at least 0 ns. of setup time in the target from the DATA BUS being valid to the ACK signal being asserted. I think the statements you reference from SCSI-2 could be viewed as implying that REQ must be true prior to beginning this delay, however SCSI-2 also says that the initiator may change or release the DATA BUS upon it detecting the REQ signal going false between bytes. This latter statement was included in SCSI-2 to permit the initiator to change the DATA BUS value earlier so that the time delay could also start earlier.

Both implementations exist in the industry. I have not heard of interoperability problems with either approach.

Please be aware that the above is my personal opinion and it does not represent an official interpretation of SCSI-2. You may submit a "Request for Interpretation" on approved ANSI standards which will eventually result in an official response from the X3 Committee. Unfortunately, this process does take some time (3 to 6 months) and it cannot begin until SCSI-2 is formally approved by ANSI (probably another 3 to 6 months).

If you wish to submit a formal Request for Interpretation, please send it to:

Ms. Lynn Barra
CBEMA (X3 Secretariat)
1250 Eye St. NW
Suite 200
Washington, DC 20005-3922

Best Regards,

John Lohmeyer