

Memo to: J. Lohmeyer
Chairman, X3T9.2

X3T9.2/88- 108

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Subject: Clarification of B Cable Data Transfer Requirements

The following paragraphs should be placed at the end of section 5.1.5.3, Page 5-8, of the SCSI-2 Working Draft, X3T9.2/86-109 Rev 5 to clarify and define the requirements on the sequencing of the REQB and ACKB lines during wide data transfer.

To assure proper data integrity, certain sequence requirements must be met among REQB/ACKB and REQ/ACK.

- 1) REQB and ACKB shall only be asserted during a data phase after wide data transfer has successfully been negotiated by the initiator and target. They shall never be asserted during phases other than the DATA IN and DATA OUT phases or if wide data transfer has not been successfully negotiated.
- 2) REQB and ACKB shall operate in the same information transfer mode (asynchronous or synchronous) as was negotiated for REQ and ACK. If in synchronous mode, the same offset and transfer period shall be used by REQB and ACKB as were negotiated for REQ and ACK.
- 3) If operating in asynchronous mode, the difference in the number of REQ/ACK sequences and the number of REQB/ACKB sequences executed from the beginning of a phase up to any instant during the phase shall not exceed 2. If operating in synchronous mode, the difference in the number of REQ pulses transmitted and the number of REQB pulses transmitted from the beginning of a phase up to any instant during the phase shall not exceed the synchronous offset value.

Implementor's Note: The above rule is required to establish a minimum for the A Cable and B Cable data buffering that is known to both the target and initiator.

- 4) The number of REQ/ACK sequences and the number of REQB/ACKB sequences in a phase shall be equal before the phase changes. The phase cannot change until ACK for the last REQ/ACK sequence and ACKB for the last REQB/ACKB sequence of the phase have both been deasserted as described in section 5.1.5.

If any violations of these rules are detected, the SCSI devices are assumed to have lost control of normal sequencing. If such violations are detected by the target, the target shall abnormally terminate the connection by deasserting BSY and entering the BUS FREE state unexpectedly. If such violations are detected by the initiator, the initiator shall abnormally terminate the connection by asserting the RST signal and entering the RESET condition.