Proposal for receiver “bandwidth” specifications

Specifications are required on the dynamic response of SPI-4 receivers to protect against very “fast” receivers being implemented to meet the very tight timing budgets. SPI-4 receivers need to have a minimum level of protection against detecting small noise spikes.

Traditional frequency domain bandwidth specifications are not suitable for use with SCSI receivers because the receivers intrinsically do not operate in a linear region.

A time and amplitude scheme is required to verify that the receiver is not too “fast”. Another way to state the requirement is that the receiver shall not detect pulses of certain amplitude and duration.

The remainder of this document is aimed at specifying the details of the pulses.

August 24, 2000 Bill Ham, Compaq 00-332r0
Pulse train based at -30 mv

Pulse train based at 30 mv

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REQUIREMENTS:

SPI-4 receivers shall not change state (even instantaneously) when presented with a pulse train at the device connector with the following properties:

- Pulse amplitude, $A$, 100 mV or less
- Pulse width, $B$, 2.0 ns or less
- Repetition time $C$, 6.25 ns or greater