

Gene Milligan (X3T10/96-222r1) identified the single ended termination incompatibilities between SCSI-2 and SPI. The current each terminator can source according to SCSI-2 is 22.4 mA at 0.5 V and with SPI is 24 mA at 0.2 V. This can make SCSI-2 terminators not SPI compliant. The notch in the terminator IV curve document was intended to reconcile this difference. The original proposal (X3T10/96-245r2) accomplished this with 25.4 mA at 0.2 V and 24 mA at 0.5 V. This was subsequently changed to 22.4 mA at 0.5 V and 25.4 mA at 0.2 V. This change meant that one could still have an incompatible terminator if at 0.5V the terminator sourced between 22.4 mA and 24 mA which defeats the original intent.

## Current SPI3r00

### 7.1.1 SE termination

All SCSI bus signals are common among all devices connected to the bus. All signal lines shall be terminated at both ends with a terminator that is compatible with the type of transceivers used in the SCSI devices. The termination points define the ends of the bus. These termination points may be internal to an SCSI device.

NOTE 5 - If the termination is provided and enabled within an SCSI device that device should not be removed from the SCSI bus while the bus is in use.

All SE conductors not defined as RESERVED, SIGNAL RETURN, or TERMPWR shall be terminated exactly once at each end of the bus. The termination of each signal shall meet the following requirements:

- a) the terminators shall be powered by the TERMPWR line and may receive additional power from other sources but shall not require such additional power for proper operation (see 7.5);
- b) each terminator shall source current to the signal line whenever its terminal voltage is below 2,5 V D.C. and this current shall not exceed 22,4 mA for any line voltage above 0,5 V D.C and 25,4 mA for any line voltage between 0,5 V D.C. and 0,2 V D.C. even when all other signal lines are driven at 4.0 V D.C.;
- c) the voltage on all released signal lines shall be at least 2,5 V D.C.;
- d) these conditions shall be met with any conforming configuration of targets and initiators as long as at least one device is supplying TERMPWR;
- e) the terminator at each end of the SCSI bus (see 7.1.4) shall add a maximum of 25 pF capacitance to each signal.
- f) the terminator shall not source current to the signal line whenever its terminal voltage is above 3,24 V D.C. except terminators may source current when the voltage is above 3,24 V D.C. in applications where the bus is less than 0,3 m.

Terminators employing a 220 ohm resistor to 5 volts and a 330 ohm resistor to ground shall not be used.

### Proposed change:

- b) each terminator shall source current to the signal line whenever its terminal voltage is below 2,5 V D.C. and this current shall not exceed **24,0** mA for any line voltage above 0,5 V D.C and 25,4 mA for any line voltage between 0,5 V D.C. and 0,2 V D.C. even when all other signal lines are driven at 4.0 V D.C.;