



System Technology Division
8000 Foothills Blvd., Roseville, CA 95678

Date: 7 May 92
From: Kurt Chan, Hewlett-Packard
To: X3T9.2 Membership
Subject: Cable length requirements

HP would like to see the cable lengths in SPI be changed back to requirements from recommendations for the following reasons.

1. By not specifying maximums, we encourage "bidding wars" between implementors. I don't believe cable length is an area where we really want to compete against one another. Integrators (and end users) will be encouraged to match the lengths of the longest implementations without having done the work necessary to ensure reliable operation.
2. By not specifying maximums, ANY length cable plant can be called "compliant".
3. We break precedent with IPI, ESDI, and SCSI-2 in not having mandates for length.
4. By sending a message that SCSI-2 is 6 meters and SCSI-3 can be more than 6 meters, we hint that there is some black magic in going from SCSI-2 to SCSI-3. I have yet to see these magic potions and their relationship to bus length documented.
5. By not specifying maximums, product test is made more troublesome. There are enough variables in maximum configuration tests without making cable length yet another variable. This would increase our cost of testing products.
6. By not specifying maximums, we further sensitize configurations to device and silicon characteristics. For example, drive A may not work on 8 meter buses, whereas drive B will. While this already happens on 6 and 25 meter systems, exacerbating the problem will only increase service costs for systems integrators, drive manufacturers, and silicon vendors. This is exactly the reason I got involved with the SPI work 4 years ago, and we're just getting to the point where the problems are going away - let's not blow it.

If there is a perception that we have enough timing and voltage margins to extend cable lengths beyond 6 and 25 meters (or to extend speeds beyond 5MHz and 10MHz, for that matter), then I would encourage us to specify exactly how much further we've proven we can go, what is necessary to get there, and bring those proposals in to vote on them instead of leaving the "implementation details" to an industry that is looking to us for leadership in this area.