

**Responses to T11 Letter Ballot Comments on HIPPI-6400-OPT, Rev 1.5**  
**(99-078v6.pdf)**

**Comment from Cielo**

001 (T) p.7, Clause 5.3

I think that the LOS signal assert level of -25dBm is unnecessarily high. I suggest an alternate value of -30dBm.

*RESPONSE - Accepted.*

**Comments from Len Young, Corning Incorporated**

001 (E) General

Hyphenate "single-mode", "channel-to-channel" (consistently)

*RESPONSE - Accepted. We have seen "single mode" done both ways, but agree that the hyphen is probably better.*

002 (E) p.1, Clause 1, Scope

Section 1 mentions 10 km, whereas 1 km is used elsewhere. Is this intended?

*RESPONSE - Accepted. To avoid confusion, we changed this value throughout the document from 10 km to 1 km.*

003 (E) p.2, Clause 2.1, Approved references

The second reference cited in Clause 2.1 has been revised. It should read ANSI/TIA/EIA-455-107A-1999 -- Determination of Component Reflectance or Link/System Return Loss Using a Loss Test Set, March 1999.

*RESPONSE - Accepted.*

The third reference that is cited under Clause 2.1 has an incorrect title. It should read Spectral Characterization of Multimode Laser Diodes

*RESPONSE - Accepted.*

The sixth reference that is cited in Clause 2.1 has been revised. It should now be cited as ANSI/EIA/TIA 526-4-1997 - OFSTP-4A, Optical Eye Pattern Measurement Procedure

*RESPONSE - Accepted.*

The eighth reference that is cited in Clause 2.1 has been revised. It should now be cited as ANSI/EIA/TIA 526-14-1998 - OFSTP-14A, Optical power loss measurements of Installed Multimode Fiber Cable Plant

*RESPONSE - Accepted.*

The tenth reference should be IEC 60793-2, Optical Fibres - Part 2:Product Specifications, Fourth Edition, 1998-12

*RESPONSE - Accepted.*

004(E) p.3, Clause 3.1.5, bit error rate

I believe that, technically, BER is the acronym for bit error ratio See also 3.3, which should show the initial letter of each word in lower case

*RESPONSE - Accepted.*

005(E) p.3, Clause 3.1.11, dispersion

[First appearance of the word velocity should be plural]"modal dispersion, due to the differences in the propagation velocities ... and chromatic dispersion, due to the difference in the propagation velocities of the"

*RESPONSE - Accepted.*

006 (E) p.3, 3.1.7, center wavelength (laser)

Delete the second sentence since "effective optical power" is not defined (nor should it be). Use upper case for each of the initial letters in "Fiber Optic Test Procedure" since this is part of a document title; see also 3.1.29 "Optical Fiber System Test Procedure" on p.4

*RESPONSE - Accepted. Put title words in capitals in 3.1.17 and 3.1.29.*

007 (E) p.3, Clause 3.1.17, fiber optic test procedure (FOTP)

Reference to EIA should be removed. TIA has since become accredited and can be cited on its own without reference to EIA. Also FOTPs are now under the TIA 455 series of standards.

*RESPONSE - Accepted.*

008 (E) p.3, Clause 3.1.20, jitter, data dependent

Recommend that the definition be shortened. It is too long and explanatory for a definition. Perhaps the final edit by the tech writer can be used to accomplish this.

*RESPONSE - Rejected. The definition is a combination of the "Jitter, data dependent" and "ISI" definitions from MJS. The alternative seemed to be to include both as separate definitions but then the ISI is only used with the data dependent jitter item, and this didn't seem too swift.*

009 (E) p.4, 3.1.29, optical fiber system test practice and p.5 Clause Acronyms and abbreviations 3.3

The "P" in OFSTP represents the word procedure not the word practice.

*RESPONSE - Accepted. 3.1.29 was also changed the same way.*

010 (E) p.5, Clause 3.3, Acronyms and other abbreviations

The acronym TIA that stands for Telecommunications Industry Association should be added to the list

*RESPONSE - Accepted.*

011 (E) p.7, Clause 5.3, Optical receiver electrical interface

Replace "Loss\_of\_Signal" with "loss of signal".

*RESPONSE - Rejected. Since the combination of words is the name of a signal, the words were connected with underbars.*

012 (T) p.10, Table 4, Optical path, Interchannel Skew

I have not been able to find a domestic or international standard for cable or fiber that specifies skew. Perhaps a reference should be made as to the source document for this value. If this cannot be provided than I would recommend that this row be removed from the table since this is an application standard rather than a generic fiber or cable standard.

Note: The Japanese have made some recommendations on skew for inclusion in IEC 61282-1 Fiber Optic Communications Systems Part 1: Generic Specifications, but none of the recommendations have been

formally included in the standard at this point in time. There are no values associated with these recommendations.

*RESPONSE - Accepted in principle. A reference and footnote was added to direct the reader to B.3 which describes the measurement techniques.*

013 (E) pp.10-11, Table 4 and 5 under the Optical Path Heading  
Missing column? Why is there no reference to 50µm fiber and values associated with this class of multimode fiber

*RESPONSE - Rejected. The committee was not interested in including 50µm fiber.*

Replace "Worst case modal bandwidth" with "Modal bandwidth (min; overfilled launch)." This terminology is consistent with IEEE 802.3z Draft 5.0 May 6,1998 p.38.18 Table 38-12

*RESPONSE - Accepted.*

014 (T) p.11, Table 5 -- 1300 nm optical parameters  
I believe that the operating distances value for 62.5µm MM should be 500 and the SM value should be 3000

*RESPONSE - Rejected. Our values are correct because the loss budget is 6 dB vs. 7.5 dB..*

Table 5: Replace SM value by referencing by the TIA/IEC/ITU fiber type.

*RESPONSE - Accepted. Added note to see clause 8 for SM specifications.*

015 (T) p.11, Table 5 Optical Path Section, SM column  
Fiber core diameter is not a single mode fiber specification. The correct term is mode field diameter.  
Suggest that one of the following references should be cited here and identified in the table Notes:

IEC 60793-2, Optical Fibres - Part 2:Product Specifications, Fourth Edition,1998-12.

ANSI/TIA/EIA-492CAAA-1998, Detail Specification for Class IVa Dispersion-Unshifted Single-Mode Optical Fibre Cable, May 1998.

ITU-T Recommendation G.652, Characteristics of Single-Mode Optical Fibre Cable, 4/97.  
If these documents are referenced in the draft they should also be cited in Clause 2.1

*RESPONSE - Accepted. Added "mode field diameter" in the Optical path portion of Table 5.*

016 (E) p.13, Clause 8.2, Cable plant loss budget  
Delete the "A" following the number. The A, B, C, etc. in FOTP and OFSTP document titles is typically not cited in textual references. It is, however, included in Reference Clause citations or bibliographies.

*RESPONSE - Accepted.*

017 (E) p.13, Clause 8, Optical fiber cable plant  
Should be changed to read: IEC 60973-2: 1998-12 Category A1b, 62.5/125 µm multimode and Class B1 single-mode fibers

*RESPONSE - Accepted.*

018 (T) p.15, Annex A, Table A.1

Table does not appear to sync with Table 4 on p. 10 of the document. Additionally, the last two columns don't reflect FDDI grade fibers and may not reflect what is currently produced by fiber manufacturers for 850 nm sources at core/cladding diameters of 62.5/125µm. Recommend that the table be removed or that the column values in the last two columns be provided for 1300nm sources at 500Mhz\*km and 800 MHz\*km

*RESPONSE - Rejected. The numbers are felt to be consistent with Table 4. While the columns at the right may not reflect current practice they were included to give a hint at what is possible for future products. The whole table is for 850nm sources, not 1300nm.*

019 (E) p.21, Clause B.3.4, Pulse centroid location

Top left: Add "chromatic dispersion effects (multimode and single-mode fibers)" to the criteria list

Top right: Correct to "the pulse centroid will approximately coincide with".

*RESPONSE - Accepted.*

### **Comments from Hewlett-Packard**

001 (T) p.10 and 11, Tables 4 and 5

The Optical Receiver parameters in Tables 4 and 5 lack a minimum bandwidth specification. This specification is required to insure that the ISI Penalty (included in the Optical System Penalty listed in the Tables) does not get excessive. The Gigabit Ethernet standard (IEEE P802.3z Clause 38.6.12) defines an Rx Bandwidth test that can be used for conformance testing. An alternative approach is to specify a Stressed Receiver Sensitivity (in addition to the Ordinary Receiver Sensitivity) which will catch low bandwidth components.

*RESPONSE - Accepted. Added entries for "Stressed receiver sensitivity" and "ISI penalty for stressed receiver test" in both table 4 and table 5.*

002 (E) p.11, Table 5

Note 5 in Table 5 has nothing to do with interchannel skew of the optical fiber so the reference to Note 5 in the Optical path section of the table should be removed. Refer to Table 4 as an example.

*RESPONSE - Accepted. The footnote was changed to a new footnote referring to B.3.*