Cl **00** *SC* *P* *L* # **60**

Bob Grow XLNT

Comment Type **E** *Comment Status* **D**

Editing instructions for existing clauses are not consistent.
This may cause unnecessary complications in the publication of 802.3z.

Clause 1 uses Create, Add and Include for new text (underlined), and Replace for figures
Annex A uses Add for new text (underlined)
Clause 3 uses Replace and Modify for text changes and Add for new text
Clause 4 uses Modify for text changes, Add for new text (underlined) and Replace for edited figures
Clause 5 uses Change (in one case for a replaced sentence - not underlined) and Modify for text changes
Clause 6 uses Replace for a figure
Clause 22 uses Replace and Modify for text changes, Replace for figures, Insert for new text (underlined).
Clause 30, Annex 30A and Annex 30B have no instructions to the editor
Annex 31B uses Replace for new text (no underlines) and Change for changed text.

SuggestedRemedy

Make consistent. Revise editing instructions as required after advice from the Working Group chair.

Perhaps strikethroughs and underlines should only be used on changes to existing text. These changes currently labled as Modify, Replace and Change could all be labeled as Change

Add and Insert could all be labeled as Insert, without underlines

Replace might only be used for major changes (where markup is not practical like on figures).

Proposed Response *Response Status* **W**

The chief editor assures the commentor that he can understand the relevant markings, and that he will work with the IEEE staff to ensure that they are correctly interpreted. In no case is there any ambiguity that would justify asking our sub-editors to review and re-word their instructions. REJECT.

Cl **00** *SC* **global** *P* **global** *L* **global** # **85**

Joe Gwinn Raytheon

Comment Type **E** *Comment Status* **D**

The ".pdf" documents containing 802.3z/d3.2 (and earlier) were not "optimised", making use of the documents by reviewers needlessly slow, especially the "all.pdf" monster.

How to tell: Open the .pdf document, and get "General" info (under "Document Info" in the Edit menu). On Macintoshes, down near the bottom is an item titled "Optimised:", yes or no. I assume the information is available in some other menu item on Wintel machines.

As I have the Acrobat package containing Distiller and Exchange, I was able to optimise the .pdf files of 802.3z/d3.2 for myself, but not everybody has this software. With the larger documents and/or slower machines, the advantage of optimization can be substantial.

SuggestedRemedy

How to fix it: In Adobe "Exchange" (which is like Adobe Acrobat Reader except it can be used for minor editing of .pdf document, and comes in the US $200 package with Distiller), in the Edit menu, there is an item titled "Batch Optimise". Put the documents to be optimised in a folder, and invoke batch optimise on this folder. Go have a coffee. On return, it's all done. It's pretty easy, and can only help, so I would just optimise everything as a matter of course.

Proposed Response *Response Status* **W**

Our editing staff will attempt to perform "optimizing" on future postings. ACCEPT.

Cl **01** *SC* **1.1.2.2(d)** *P* **1.2** *L* **43** # **68**

Rich Seifert Networks & Communic

Comment Type **E** *Comment Status* **D**

The GMII does not support operation at any speed other than 1000 Mb/s.

SuggestedRemedy

Delete "or lower speed".

Proposed Response *Response Status* **W**

ACCEPT.

Cl **01** *SC* **1.4** *P* **01.3** *L* **24** # **189**

Kelly McClellan SMC

Comment Type **E** *Comment Status* **D**

typographical:
'specialtyshielded' is run together

SuggestedRemedy

add a space

Proposed Response *Response Status* **W**

ACCEPT.

Cl **01** *SC* **1.4** *P* **01.4** *L* **14** # **191**

Kelly McClellan SMC

Comment Type **E** *Comment Status* **D**

definition of 'differential sensitivity' should include
reference to BER

SuggestedRemedy

change "resolve both a logic-0 and a logic-1." to
"resolve between logic-0 and logic-1 levels with an acceptable BER."

Proposed Response *Response Status* **W**

ACCEPT.
P01.4/L14 append to the sentence this phrase:
"with an acceptable BER".

Cl **01** *SC* **1.4** *P* **01.4** *L* **16** # **190**

Kelly McClellan SMC

Comment Type **E** *Comment Status* **D**

definition of 'differential skew' should be
closer to useage in Clause 39

SuggestedRemedy

change "between the same relative instants, of"
to "at the midpoint voltage crossing, between"

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
P01.4/L16 change "between the same relative instants" to read
"between the midpoint voltage crossings".

The completed definition will read,
"differential skew: The differenece in time between the midpoint voltage crossings of the true and complement components of a differential signal."

Cl **01** *SC* **1.4** *P* **01.9** *L* **47** # **78**

Joe Gwinn Raytheon

Comment Type **E** *Comment Status* **D**

We use the term "power penalty" in a number of places in section 01, but never define it. There was a definition in section 01 of draft 3.1, but it appears to have vanished, probably by mistake.

SuggestedRemedy

Define "power penalty". It seemed to me that we didn't quite answer the mail in our definition of power penalty in response to Comment #105 (on P802.3z/d3.1). The following is based on an answer to a customer question (asked of Raytheon). Feel free to plagarize all or part.

The basic theory is that one can overcome the bad effects of this or that kind of noise or distortion by spending some of the link's flux budget. The various kinds of noise have the effect of making the receiver work somewhat harder, causing it to misinterpret its input somewhat more often. Likewise, the various kinds of distortion have the effect of causing the transmitted bits to spread, making each bit's signal wider but shorter, the now-wider bits spilling over into adjacent bit cells, reducing the received amplitude (the difference between a "one" and a "zero") of the signal. The "power penalty", generally given in decibels, is the specific amount of the flux budget that must be spent to cancel the effects of the noise and distortion. The general solution to such noise and distortion is therefore to use some combination of a brighter transmitter and a more sensitive receiver to compensate.

Proposed Response *Response Status* **W**

REJECT. I checked draft 3.1, and did not find a definition of the term "power penalty". The term "power penalty" is not defined in P802.3z, as far back as D3.1, D3.0, and D2.0.

One good reason for not defining the term "power penalty" is that IT DOESN'T EXIST IN D3.2. The term "link penalty" (also called link power penalty) does exist in clause 38, and a definition has been provided for that term.

------- history -------
Here's comment 105 from D3.1
P1.5/L15, "I think power penalty also needs a definition."

Here's the final response to comment 105, from the database:
"REJECT, but attempt to do something reasonable.
In the definition of link penalties, change
"It includes.."
to read
"These power penalties include" "

Cl **01** *SC* **1.4** *P* **1.3** *L* **24, 27, 30** # **124**

David Law 3Com

Comment Type **E** *Comment Status* **D**

1000BASE X should read 1000BASE-X.

SuggestedRemedy

See comment

Proposed Response *Response Status* **W**

ACCEPT. Make changes in three places.

Cl **01** *SC* **1.4** *P* **1.3** *L* **33** # **126**

David Law 3Com

Comment Type **E** *Comment Status* **D**

Suggest that definition should mentioned that 1000BASE-T runs on four pairs

of Cat-5 cabling.

SuggestedRemedy

Suggest text '... four pairs of balanced copper cabling ...' should read '... four pairs of category 5 balanced cabling ...'

Proposed Response *Response Status* **W**

ACCEPT. This change has already been made in two other places in D3.2, and should be made here as well.

Cl **01** *SC* **1.4** *P* **1.3** *L* **47 to 51** # **125**

David Law 3Com

Comment Type **E** *Comment Status* **D**

The definition used here does not include the changes that were made by 802.3y.

SuggestedRemedy

Please perform these changes to the 802.3y version of the code-group definition.

Proposed Response *Response Status* **W**

P01.3/L50, prior to the underlined addition, insert the following sentence which was erroneously left out of the draft (it should NOT be underlined):
"For 100BASE-T2, a pair of PAM5X5 symbols which, when representing data, convey a nibble."

Cl **01** *SC* **1.4** *P* **1.5** *L* **28** # **128**

David Law 3Com

Comment Type **E** *Comment Status* **D**

Suggest reword of this definition to match others.

SuggestedRemedy

Suggest should read 'A mechanism for full-duplex flow control (See IEEE 802.3 annex 31B.)

Proposed Response *Response Status* **W**

ACCEPT.

Cl **01** *SC* **1.4** *P* **1.5** *L* **30 to 43** # **127**

David Law 3Com

Comment Type **E** *Comment Status* **D**

"The definitions for 'Physical Coding Sublayer (PCS)', Physical Layer entity (PHY)' and 'Physical Media Attachment (PMA)' seem to be missing the

changes made by 802.3y."

SuggestedRemedy

Please perform these changes to the 802.3y version of the code-group definition.

Proposed Response *Response Status* **W**

ACCEPT.
There were no changes introduced as part of 802.3x.

Changes introduced by 802.3y at the sponsor ballot include:
P01.5/L32 strike the words "for 100BASE-T".
P01.5/L32 change the word "Three" to "Four".
P01.5/L33 prior to the underlined addition, insert the following phrase which as erroneously left out of the draft (it should NOT be underlined) :
", one for 100BASE-T4 "

P01.5/L33 add "32" to the list of clauses to see.
P01.5/L38 add "32" to the list of clauses to see.
P01.5/L change the list of clauses to see to read:
"(See IEEE 802.3 clauses 7, 12, 14, 16, 17, 18, 23, 24, 32 and 36.)"

Changes introduced by 802.3y at the sponsor ballot recirculation include:
P01.5/L30 Insert the phrase "Within 802.3, " at the head of the definition.
The complete definition now reads:
"Physical Coding Sublayer (PCS): Within 802.3, a sublayer used... "

P01.5/L35 Insert the phrase "Within 802.3, " at the head of the definition.
The complete definition now reads:
"Physical Layer entity (PHY): Within 802.3, the portion of... "

P01.5/L40 Insert the phrase "Within 802.3, " at the head of the definition.
The complete definition now reads:
"Physical Media Attachment (PMA) sublayer: Within 802.3, that portion of... "

Cl **01** *SC* **1.4** *P* **1.5** *L* **40** # **38**

Kevin Daines Packet Engines

Comment Type **E** *Comment Status* **D**

"Physical Media Attachment (PMA) sublayer" is incorrect.
References - .3u 1.4.150 (page 15)
- .3z Figure 1-1 (page 1.2)

SuggestedRemedy

Change "Media" to "Medium"

Proposed Response *Response Status* **W**

ACCEPT.

Cl **04** *SC* **4.2.3** *P* **4.10** *L* **11** # **12**

Shimon Muller Sun Microsystems

Comment Type **E** *Comment Status* **D**

Style of the sentence.

SuggestedRemedy

Delete "and" after "enforcement".

Proposed Response *Response Status* **O**

Cl **04** *SC* **4.2.3.4** *P* **4.11** *L* **23-24** # **87**

Edmund Chen APD

Comment Type **E** *Comment Status* **D**

In Fig. 4-7, the FCS Coverage should not include the FCS field.

SuggestedRemedy

In Fig. 4-7, the FCS Coverage indication should end before the start of the FCS field.

Proposed Response *Response Status* **O**

Cl **04** *SC* **4.2.7.2** *P* **4.15** *L* **10** # **129**

David Law 3Com

Comment Type **E** *Comment Status* **D**

The close } is missing from the interFrameSpacingPart2 definition.

SuggestedRemedy

Add the close '}'

Proposed Response *Response Status* **O**

Cl **04** *SC* **4.3.3** *P* **04.31** *L* **40** # **13**

Shimon Muller Sun Microsystems

Comment Type **E** *Comment Status* **D**

The NOTE that was deleted from the text should still appear in this version of the standard, and be shown in "strikethrough" type.

SuggestedRemedy

See Comment.

Proposed Response *Response Status* **O**

Cl **04** *SC* **4.4.2.1** *P* **33** *L* **28** # **197**

Devendra Tripathi XaQti Corporation

Comment Type **E** *Comment Status* **D**

The last part of the sentence "..and the clock skew" should be "... and the clock tolerances", just like line 27 of page 4.36.

SuggestedRemedy

Replace the word skew with word tolerance(s).

Proposed Response *Response Status* **O**

Cl **04** *SC* **4.4.2.3** *P* **35** *L* **24** # **198**

Devendra Tripathi XaQti Corporation

Comment Type **E** *Comment Status* **D**

Add a note like used for 10 and 1000 Mb/s speeds regarding interframe spacing in terms of bit time.

SuggestedRemedy

Put the value in (I do not know the value).

Proposed Response *Response Status* **O**

Cl **04** *SC* **4.4.2.4** *P* **4.36** *L* **5** # **35**

Kevin Daines Packet Engines

Comment Type **E** *Comment Status* **D**

Spelling error

SuggestedRemedy

Change "... used fr..." to "...used for..."

Proposed Response *Response Status* **O**

Cl **05** *SC* **5.2.4.2** *P* **2** *L* **21, 40** # **199**

Devendra Tripathi XaQti Corporation

Comment Type **T** *Comment Status* **D**

Is 32 bit wide xmt octet counter good enough for Gbit/s speed ?

SuggestedRemedy

If it is not we should add Counter64 in the definition and while declaring octetsTransmittedOK, use counterLarge or Counter64 depending upon whether speed is less than Gb/s or not. Likewise we should define function Sum64 (on the line of SumLarge) and invoke that function (in place of SumLarge) for Gbit or higher speeds on line 40.

Proposed Response *Response Status* **O**

Cl **05** *SC* **5.2.4.2** *P* **2** *L* **36** # **200**

Devendra Tripathi XaQti Corporation

Comment Type **T** *Comment Status* **D**

In full duplex mode carrier sense is not defined. Thus LayerMgmtTransmitCounters may remain on line 36 forever.

SuggestedRemedy

Either condition this check with half duplex mode or in the carrierSenseTest process always return true (maybe after line 49).

Proposed Response *Response Status* **O**

Cl **05** *SC* **5.2.4.3** *P* **4** *L* **25, 51** # **201**

Devendra Tripathi XaQti Corporation

Comment Type **T** *Comment Status* **D**

Is 32 bit wide receive octet counter good enough for Gbit ?

SuggestedRemedy

If it is not we should add Counter64 in the definition and while declaring octetsReceivedOK, use counterLarge or Counter64 depending upon whether speed is less than Gb/s or not. Likewise we should define function Sum64 (in the line of SumLarge) and invoke that function for Gbit or higher speeds (in place of SumLarge) on the line 51.

Proposed Response *Response Status* **O**

Cl **05** *SC* **5.2.4.3** *P* **5** *L* **44** # **202**

Devendra Tripathi XaQti Corporation

Comment Type **T** *Comment Status* **D**

The value assigned on lne 44 overwrites any other assignments.

SuggestedRemedy

Move the line 44 (LayerMgmtRecognizeAddress = false) to after 35 (just after begin).

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.2.4** *P* **22.3** *L* **22** # **37**

Kevin Daines Packet Engines

Comment Type **E** *Comment Status* **D**

Capitalization error. Reference: clause 37

SuggestedRemedy

Change Auto-negotiation to Auto-Negotiation

Proposed Response *Response Status* **W**

Accept.

Cl **22** *SC* **22.2.4** *P* **22.3-22.8** *L* # **66**

Bob Grow XLNT

Comment Type **E** *Comment Status* **D**

I have been informed that the IEEE editor has included editorial changes in 802.3x&y as requested in my ballot comment on 802.3aa. As a result, the base document for 802.3z clause 22 has changed,and the markups need to be corrected to agree with the base document. This will result in some text that is strikethrough with new underline being replaced with the new text without underline. No changes to the resulting text occur through accepting this comment.

SuggestedRemedy

22.3 Line 21 strikethrough 7 underline 10 needs to change to 10. 22.5 Line 9 strikethrough 11 underline 9 needs to change to 9. 22.5 Line 13 strikethrough 11 needs to change to strikethrough 9. 22.5 Line 50 strikethrough 11 underline 9 needs to change to 9. 22.6 Line 1 strikethrough 11 underline 9 needs to change to 9. 22.7 Line 53 delete the change instruction and paragraph for 22.2.4.3 since it is now correct in the base document

Proposed Response *Response Status* **W**

Accept. Also include change to 22.7/24 where strikethrough 4,5,6, and 7 becomes strikethrough 4,5,6,7 and 8.

Cl **22** *SC* **22.2.4.1.3** *P* **22.5** *L* **9** # **64**

Brad Booth Jato Technologies, Inc

Comment Type **T** *Comment Status* **D**

The context of a single speed PHY has been changed.

SuggestedRemedy

Change sentence to read... If a PHY reports via bits 1.15:9 and bits 15.15:12 that it is able to operate at only one speed, the value of bits 0.6 and 0.13 shall correspond to the speed at which the PHY can operate, and any attempt to change the setting of the bits shall be ignored.

Proposed Response *Response Status* **W**

The text in D3.2 is correct since there are three speeds of operation. The proposed text is only appropriatewhen there were only two speeds of operation. The SuggestdRemedy is implied in the current text. If a PHY reports via bits 1.15:9 and bits 15.15:12 that it is not able to operate at all speeds, the value of bits 0.6 and 0.13 shall correspond to a speed at which the PHY can operate, requires that if a PHY only operates at one speed the setting of the bits will be the speed at which it operates.

Cl **22** *SC* **22.2.4.2.16** *P* **8** *L* **23** # **203**

Devendra Tripathi XaQti Corporation

Comment Type **E** *Comment Status* **D**

Clause 28 does not define register 8, thus reference to 28.2.4.1 is not correct.

SuggestedRemedy

Replace the last sentence on line 23 to "See 37.2.6.1."

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.2.4.2.8** *P* **22.7** *L* **15** # **14**

Shimon Muller Sun Microsystems

Comment Type **E** *Comment Status* **D**

Style of the sentence.

SuggestedRemedy

Add a , and delete the and after standardization.

Proposed Response *Response Status* **W**

Accept.

Cl **22** *SC* **22.7.3.4** *P* **22.10** *L* # **67**

Bob Grow XLNT

Comment Type **E** *Comment Status* **D**

Verify if the subclause references in PICs items MF39 through 51 of 802.3x&y have been corrected as requested on my ballot comment on 802.3aa, if so correct the editing instructions.

SuggestedRemedy

If corrected in 802.3x&y remove editing instructions 22.10, line 50 (MF39,MF40) through 22.11 line 1. Update PICS item MF51 for correct strikeout and underline from the base document.

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.7.3.4** *P* **22.10** *L* **15** # **62**

Brad Booth Jato Technologies, Inc

Comment Type **T** *Comment Status* **D**

The context of a single speed PHY has been changed in PICS MF12.

SuggestedRemedy

Change feature to be...Value of speed selection bits for single speed PHY

Proposed Response *Response Status* **W**

Reject. See comment #64.

Cl **22** *SC* **22.7.3.4** *P* **22.10** *L* **17** # **63**

Brad Booth Jato Technologies, Inc

Comment Type **T** *Comment Status* **D**

The context of a single speed PHY has been changed in PICS MF13.

SuggestedRemedy

Change feature to be...Single speed PHY ignores writes to speed selection bits.

Proposed Response *Response Status* **W**

Reject. See comment #64.

Cl **22** *SC* **22.7.3.4** *P* **22.10** *L* **30** # **150**

David Law 3Com

Comment Type **E** *Comment Status* **D**

Is the status correct. It reads that the registers are dependent on the implementation of the GMII. Aren't these registers in fact depended on the speed of operation being over 100Mb/s.

SuggestedRemedy

Correct status column if required.

Proposed Response *Response Status* **O**

Cl **22** *SC* **22.7.3.4** *P* **22.10** *L* **30** # **149**

David Law 3Com

Comment Type **E** *Comment Status* **D**

Incorrect subclause reference

SuggestedRemedy

Suggest '22.2.4' should read '22.2.4.4'

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.2.2.2.2** *P* **30.10** *L* **7** # **146**
David Law 3Com

Comment Type **E** *Comment Status* **D**
Typo.

SuggestedRemedy
Suggest '... until the end of CarrierEvent ...' should read '... until the end of the CarrierEvent ...'

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.2.2.2.2** *P* **30.10** *L* **9** # **147**
David Law 3Com

Comment Type **E** *Comment Status* **D**
Typo.

SuggestedRemedy
"Suggest '... delimiter, once the ...' should read '... delimiter once the ...'"

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.2.2.2.2** *P* **30.9** *L* **20** # **148**
David Law 3Com

Comment Type **E** *Comment Status* **D**
Typo.

SuggestedRemedy
Suggest 'The carrier Event function ...' should read 'The Carrier Event function ...'

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.1.1.24** *P* **30.25** *L* **10** # **184**
Kevin Daines Packet Engines

Comment Type **E** *Comment Status* **D**
Spelling error.

SuggestedRemedy
Change "Due to the modifictionto legitimize..."
to
"Due to the modification to legitimize..."

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.1.1.24** *P* **30.25** *L* **9** # **145**
David Law 3Com

Comment Type **E** *Comment Status* **D**
"Typo, missing space."

SuggestedRemedy
Suggest '... the modificationto ...' should read '... the modification to ...'

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.1.1.25** *P* **30.25** *L* **24** # **144**
David Law 3Com

Comment Type **E** *Comment Status* **D**
Suggest we should be consistent in the use of project names.

SuggestedRemedy
Suggest '... in project 802.3ac to ...' should read '... in P802.3ac to ...'

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.2.1.2** *P* **30.28** *L* **37** # **143**
David Law 3Com

Comment Type **E** *Comment Status* **D**
"Typo, missing space."

SuggestedRemedy
Suggest '... the use ofP802.3ab.' should read '... the use of P802.3ab.'

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.3.2.1.5** *P* **30.29** *L* **43** # **152**
David Law 3Com

Comment Type **E** *Comment Status* **D**
"The carrier event is not necessarily valid, it is just a carrier event."

SuggestedRemedy
Suggest text '... (a valid carrier event) ...' should read '... (a carrier event) ...'

Proposed Response *Response Status* **O**

Cl **30** SC **30.3.2.1.6** P **30.30** L **8 to 19** # **151**
David Law 3Com

Comment Type **E** *Comment Status* **D**

"The note duplicates the text of the behaviour. Remove the note, it is no longer required."

SuggestedRemedy

Remove the note.

Proposed Response *Response Status* **O**

Cl **30** SC **30.4.3.1.10** P **30.41** L **1** # **157**
David Law 3Com

Comment Type **E** *Comment Status* **D**

Remove the extraneous carriage return after ValidPacketMinTime.

SuggestedRemedy

See comment

Proposed Response *Response Status* **O**

Cl **30** SC **30.4.3.1.2** P **30.38** L **21** # **155**
David Law 3Com

Comment Type **E** *Comment Status* **D**

Match the enumeration to the actual value. Also place inverted commas around the enumeration.

SuggestedRemedy

"Suggest the text ' ... the value enable.;' should read '... the value ""enabled"".;'"

Proposed Response *Response Status* **O**

Cl **30** SC **30.4.3.1.2** P **30.38** L **22** # **153**
David Law 3Com

Comment Type **E** *Comment Status* **D**

Typo.

SuggestedRemedy

Suggest text '... repeater port auto-partition ...' should read '... repeater the port auto-partition ...'

Proposed Response *Response Status* **O**

Cl **30** SC **30.4.3.1.2** P **30.38** L **23** # **154**
David Law 3Com

Comment Type **E** *Comment Status* **D**

Place inverted commas around the enumeration.

SuggestedRemedy

"Suggest the text ' ... the value enabled.;' should read '... the value ""enabled"".;'"

Proposed Response *Response Status* **O**

Cl **30** SC **30.4.3.1.7** P **30.39** L **46** # **156**
David Law 3Com

Comment Type **E** *Comment Status* **D**

Remove extraneous space.

SuggestedRemedy

Suggest text '... will not increment ...' should read '... will not increment ...'

Proposed Response *Response Status* **O**

Cl **30** SC **30.5.1.1.2** P **30.46** L **1 & 11** # **158**
David Law 3Com

Comment Type **E** *Comment Status* **D**

Please correct the format of these two paragraphs. They should not be hanging paragraphs.

SuggestedRemedy

See comment.

Proposed Response *Response Status* **O**

Cl **30** SC **30.5.1.1.4** P **30.46** L **39 & 40** # **160**
David Law 3Com

Comment Type **E** *Comment Status* **D**

Correct the capitalisation of Auto-Negotiation on both of these lines.

SuggestedRemedy

In three places the text 'auto negotiation' should read 'Auto-Negotiation'

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.5.1.1.4** *P* **30.46** *L* **40** # **159**

David Law 3Com

Comment Type **E** *Comment Status* **D**

Suggest new enumeration 'auto negotiation error' should be changed to 'auto neg error' so that it fits within the size of the other enumeration's. If accepted 30B also needs changed.

SuggestedRemedy

Change 'auto negotiation error' to read 'auto neg error'. Also do this change to this entry in 30B.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.5.1.1.4** *P* **30.46** *L* **40** # **161**

David Law 3Com

Comment Type **E** *Comment Status* **D**

"Text 'auto negotiation, applies only ...' should read 'Auto-Negotiation error ...'. I assume this text runs into the enumeration due to the length of the enumeration, not the lack of a space."

SuggestedRemedy

"Text 'auto negotiation, applies only ...' should read 'Auto-Negotiation error ...'."

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.6.1.1.5** *P* **30.51** *L* **34 & 35** # **162**

David Law 3Com

Comment Type **E** *Comment Status* **D**

"Text '... (RF1)as ...' and '... (RF2)as ...' should read '... (RF1) as ...' and '... (RF2) as ...', that is add a space before 'as' in both cases."

SuggestedRemedy

See comment.

Proposed Response *Response Status* **O**

Cl **30B** *SC* **30B.2** *P* **30B.5** *L* **54** # **163**

David Law 3Com

Comment Type **E** *Comment Status* **D**

"Text '... of clause 40 ...' should read '... of clause 40...', that is remove additional space."

SuggestedRemedy

See comment.

Proposed Response *Response Status* **O**

Cl **31** *SC* **31B.3.7** *P* **31B.1** *L* **41** # **15**

Shimon Muller Sun Microsystems

Comment Type **E** *Comment Status* **D**

Typo.

SuggestedRemedy

Replace "noe" with "not".

Proposed Response *Response Status* **O**

Cl **31B** *SC* **31B.3.7** *P* **31B.1** *L* **36** # **141**

David Law 3Com

Comment Type **E** *Comment Status* **D**

"Typo, missing close ')'."

SuggestedRemedy

"Suggest '... (i.e., the ... interrupted.' should read '... (i.e., the ... interrupted).' "

Proposed Response *Response Status* **O**

Cl **31B** *SC* **31B.3.7** *P* **31B.1** *L* **41** # **142**

David Law 3Com

Comment Type **E** *Comment Status* **D**

Typo.

SuggestedRemedy

Suggest '... noe ...' should read '... not ...'.

Proposed Response *Response Status* **O**

Cl **31B** *SC* **31B.4.3** *P* **31B.2** *L* **1 to 43** # **140**

David Law 3Com

Comment Type **E** *Comment Status* **D**

The order of the columns seems to have been changed from that published in 31B.

SuggestedRemedy

Return to the order as published otherwise these two tables will look rather odd when published as part of 31B.

Proposed Response *Response Status* **O**

Cl **31B** *SC* **31B.4.6** *P* **31B.2** *L* **29** # **139**

David Law 3Com

Comment Type **E** *Comment Status* **D**

Transcription error.

SuggestedRemedy

Text 'TM1' should read 'TIM1' as per the published standard.

Proposed Response *Response Status* **O**

Cl **31B** *SC* **31B.4.6** *P* **31B.2** *L* **38** # **138**

David Law 3Com

Comment Type **E** *Comment Status* **D**

Please remove the strikethrough word 'out' from 'without'. These seems to be a strikethrough from marking a change made to the last draft of 802.3x and will never be published (I hope).

SuggestedRemedy

Text '... for stations without MII' should read '... for stations with MII'

with not editing marks. There should be no change here to the published standard.

Proposed Response *Response Status* **O**

Cl **34** *SC* **34.1** *P* **34.1** *L* **38-39** # **16**

Shimon Muller Sun Microsystems

Comment Type **E** *Comment Status* **D**

See comment #555.
This editorial comment was accepted by the editor, but the change was not incorporated in the specified text.

SuggestedRemedy

See comment #555.

Proposed Response *Response Status* **W**

ACCEPT.
P34.1/L39, strike the word and.
P34.1/L39 append to the sentence the phrase "and 1000BASE-T".

(oops, looks like I tied your comment together with number 1254, and the eventual resolution of 1254 did not specifically reference your issue. Thanks for noticing.)

----- history-----
Here is the original version of D3.1 comment 555:
"P34.1/L33-34, 1000BASE-T has a reserved clause in our document and it is an approved project, therefore, it should be mentioned in the introduction as one of the PHYs."

Here is the final response to 555, as recorded in the database:
"ACCEPT. Will do per Geoff Thompson's comment number 1254"

Here is the origianl version of D3.1 comment 1254:
"P34.3/L1, The last line in this sub-clause is sort of an orphan"
"Pump up the text to say something like 1000BASE-T is a separate approved project. Clause 40 has been reserved for 100BASE-T or better yet why not put it in the table and just note that it is under development as a separate project. That way the table size won't change and shuffle pagination when 1000BASE-T is approved."

Here is the final response to 1254, as recorded in the database:
ACCEPT. In response to comment 30, the line has been changed to read: "The 1000BASE-T PHY (clause 40) uses four pairs of balanced copper cabling. Clause 40 defines its own PCS, which does not use 8B10B coding."

P34.2/L52 append new row to the table, which shall read:
"1000BASE-T | Advanced multilevel signaling over four pairs of balanced copper cabling | Clause 40 (under development) "

Cl **34** *SC* **34.1.2** *P* **34.3** *L* **7** # **130**

David Law 3Com

Comment Type **E** *Comment Status* **D**

Rather than '(under development)' suggest that same text as is used elsewhere should be used to note that clause 40 is not yet complete.

SuggestedRemedy

Delete text '(under development)'. Instead add note 'Note- 1000BASE-T is under development in P802.3ab. Clause 40 has been allocated for the use of P802.3ab. No approved specification of clause 40 is available at this time.'

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE. This is supposed to be a brief introductory table, not a full specification. It's pretty obvious that clause 40 is not available at this time (it won't be in the book), however, I do see some value in pointing readers to the relevant committee.
P34.3/L7 change "under development" to read:
"under development in IEEE P802.3ab"

Cl **35** *SC* **35** *P* **35.22** *L* **21-24** # **106**
Bill Quackenbush cisco Systems

Comment Type **E** *Comment Status* **D**

Text was approved at the 9/30-10/1 intermin in Santa Clara for insertion at the beginning of clause 35.4.3. Some of the approved text does not appear in d3.2. As a result, the clarity of the new text is diminished.

SuggestedRemedy

Add the missing text (which is underlined) so that the paragraph reads as follows.

Since the output characteristics and output Voltage waveforms of GMII drivers depend on the termination technique and the location of the termination components, the AC output characteristics of GMII drivers are not explicitly specified. Rather, the AC characteristics of the
---
signal delivered to a GMII receiver are specified. These
---
characteristics are independent of the topology and termination technique and apply uniformly to all GMII applications.

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.1.1** *P* **35.2** *L* **51** # **112**
Bill Quackenbush cisco Systems

Comment Type **E** *Comment Status* **D**

"provides" should be singular.

SuggestedRemedy

See comment.

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.1.2** *P* **35.3** *L* **17** # **113**
Bill Quackenbush cisco Systems

Comment Type **E** *Comment Status* **D**

Period and start of sentence missing.

SuggestedRemedy

Change to " with traces on a printed circuit board. A motherboard to"

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.1.2** *P* **35.3** *L* **20-23** # **114**
Bill Quackenbush cisco Systems

Comment Type **E** *Comment Status* **D**

Sentence is awkward.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.1.3** *P* **35.3** *L* **36-37** # **115**
Bill Quackenbush cisco Systems

Comment Type **E** *Comment Status* **D**

Awkward usage.

SuggestedRemedy

Change the second sentence to

"PHYs must report the rates at which they are capable of operating via the management interface as described in ....."

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.1.4** *P* **35.3** *L* **46** # **36**
Kevin Daines Packet Engines

Comment Type **E** *Comment Status* **D**

Incorrect acronym. Reference .3u 1.4.150

SuggestedRemedy

Change Media to Medium

Proposed Response *Response Status* **W**

Accept.

Cl **35** *SC* **35.2.1.5** *P* **35.6** *L* **38 & 39** # **131**
David Law 3Com

Comment Type **E** *Comment Status* **D**

Typo.

SuggestedRemedy

Suggest '... a FrameCheckError the sequence.' should read '... a FrameCheckError in the sequence.'

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.2.2.10** *P* **14** *L* **46-50** # **205**

Devendra Tripathi — XaQti Corporation

Comment Type **E** *Comment Status* **D**

These line are pretty much duplicated again on lines 51 to 54.

SuggestedRemedy

Delete line 46 to 50.

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.2.2.10** *P* **15** *L* **7, 20** # **206**

Devendra Tripathi — XaQti Corporation

Comment Type **T** *Comment Status* **D**

Since bit 0.8 defines full duplex mode only when manual configuration is enabled, the sentence describing CRS and COL
on these lines are not accurate.

SuggestedRemedy

Replace the sentence with "The behaviour of CRS is unspecified when the PHY is in full duplex mode".
Simlar replacement can be made for COL signal on line 20.

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.2.2.10** *P* **14** *L* **46-** # **45**

Kevin Daines — Packet Engines

Comment Type **E** *Comment Status* **D**

Essentially both paragraphs are identical with the exception of the last line in the 2nd paragraph. Since the two are written differently, it makes it somewhat awkward to read.

SuggestedRemedy

Remove first paragraph (lines 46-49). Split the second paragrpah into two, resulting in the following: Except when used in a repeater, the PHY in half duplex mode shall assert CRS when either the transmit or receive medium is non-idle and shall deassert CRS when both the transmit and receive media are idle. The PHY shall ensure that CRS remains asserted throughout the duration of a collision condition. When used in a repeater, the PHY shall assert CRS when the receive medium is non-idle and shall deassert CRS when the receive medium is idle.

Proposed Response *Response Status* **W**

Accept in principle. To accomodate comments accepted on D3.1 (primarily driven by the PHY), the text should read: CRS is driven by the PHY. Except when used in a repeater, a PHY in half duplex mode shall assert CRS when either the transmit or receive medium is non-idle and shall deassert CRS when both the transmit and receive media are idle. The PHY shall ensure that CRS remains asserted throughout the duration of a collision condition. When used in a repeater, a PHY shall assert CRS when the receive medium is non-idle and shall deassert CRS when the receive medium is idle.

Cl **35** *SC* **35.2.2.10** *P* **35.15** *L* **9** # **44**

Kevin Daines — Packet Engines

Comment Type **E** *Comment Status* **D**

Spelling error.

SuggestedRemedy

Change Figure to Figures.

Proposed Response *Response Status* **W**

Accept.

Cl **35** *SC* **35.2.2.4** *P* **35.8** *L* **23** # **116**

Bill Quackenbush — cisco Systems

Comment Type **E** *Comment Status* **D**

"first GTX_CLK" is unclear.

SuggestedRemedy

Insert "rising edge of" between "first" and "GTX_CLK".

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.2.2.5** *P* **35.8** *L* **49-52** # **117**

Bill Quackenbush cisco Systems

Comment Type **E** *Comment Status* **D**

"data" not "data code-groups" are present on TXD. Certain encodings of TXD, TX_EN and TX_ER request that the PHY generate certain code-groups. But code-groups appear only on the media.

SuggestedRemedy

Change the paragraph to the following.

"TXD is a bundle of eight data signals (TXD<7:0>) that are driven by the Reconciliation sublayer. TXD<7> is the most significant bit, TXD<0> is the least significant bit. TDX<7:0> shall transition synchronously with respect to GTX_CLK.

When TX_EN is asserted and TX_ER is deasserted, data are presented to the PHY on TXD<7:0> for transmission.

When TX_EN and TX_ER are both asserted, the PHY is requested to ignore the values of TXD<7:0> and generate invalid code-groups on media.

When TX_EN and TX_ER are both deasserted, TXD<7:0> shall have no effect of the PHY."

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.2.2.5** *P* **35.9** *L* **6** # **43**

Kevin Daines Packet Engines

Comment Type **E** *Comment Status* **D**

Redundant text. The note about TXD encodings is found in text and in table (line 26, same page).

SuggestedRemedy

Remove the note in the text. Change spelling of hexidecimal to hexadecimal

Proposed Response *Response Status* **W**

Accept. Delete the second sentence of the paragraph beginning on line 6 and continuing on line 7. Correct the spelling on line 26.

Cl **35** *SC* **35.2.2.5** *P* **35.9** *L* **7** # **132**

David Law 3Com

Comment Type **E** *Comment Status* **D**

Suggest in this case table should not have been changed to have an uppercase 'T'.

SuggestedRemedy

Suggest text '... the Table are ...' should read '... the table are ...'

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.2.2.6** *P* **10** *L* **49** # **204**

Devendra Tripathi XaQti Corporation

Comment Type **E** *Comment Status* **D**

The last word "deasserted" is not correct when used for state. I think inactive word is more appropriate.

SuggestedRemedy

Replace the word deasserted to inactive.

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.2.2.6** *P* **35.10** *L* **45 to 47** # **133**

David Law 3Com

Comment Type **E** *Comment Status* **D**

"The text 'The TX_ER signal shall be implemented at the GMII of a PHY and in a repeater, at the GMII of a port. The TX_ER shall be implemented in MAC

sublayer devices that support half duplex operation and repeater units ...'

mentions the repeater twice."

SuggestedRemedy

Suggest the text should read 'The TX_ER signal shall be implemented at the GMII of a PHY. The TX_ER shall be implemented in MAC sublayer devices that support half duplex operation and repeater units ...'

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.2.2.6** *P* **35.10** *L* **45-49** # **118**
Bill Quackenbush cisco Systems

Comment Type **E** *Comment Status* **D**

The paragraph is rather unclear, at least to me.

SuggestedRemedy

I'm am not clear on what the paragraph is trying to say, so I am hard pressed to offer a remedy other than to say fix it.

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.2.2.6** *P* **35.10** *L* **5** # **40**
Kevin Daines Packet Engines

Comment Type **E** *Comment Status* **D**

Punctuation error.

SuggestedRemedy

Remove extra_ at end of line.

Proposed Response *Response Status* **W**

The underscore is a product of the comparison tool and is not in the source document. No action required.

Cl **35** *SC* **35.2.2.7** *P* **35.10** *L* **54** # **119**
Bill Quackenbush cisco Systems

Comment Type **E** *Comment Status* **D**

RX_DX does not indicate whether the data on RXD<7:0> is synchronous to RX_CLK.

SuggestedRemedy

End the sentence after "and decoded data on the RXD<7:0> bundle".

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.2.2.7** *P* **35.11** *L* **18** # **120**
Bill Quackenbush cisco Systems

Comment Type **E** *Comment Status* **D**

Change "shall remain asserted continuously" to "shall be asserted continuously".

SuggestedRemedy

See comment.

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.2.2.7** *P* **35.11** *L* **20** # **121**
Bill Quackenbush cisco Systems

Comment Type **E** *Comment Status* **D**

"first RX_CLK" is unclear.

SuggestedRemedy

Insert "rising edge of" between "first" and "RX_CLK".

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.2.2.8** *P* **35.11** *L* **51** # **134**
David Law 3Com

Comment Type **E** *Comment Status* **D**

Suggest in this case table should not have been changed to have an uppercase 'T'.

SuggestedRemedy

Suggest text '... the Table are ...' should read '... the table are ...'

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.2.2.8** *P* **35.12** *L* **4** # **122**
Bill Quackenbush cisco Systems

Comment Type **E** *Comment Status* **D**

I think that the sentence should begin "In a DTE".

SuggestedRemedy

See comment

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.2.2.8** *P* **35.12** *L* **51** # **42**
Kevin Daines Packet Engines

Comment Type **E** *Comment Status* **D**

Redundant text. The note about RXD encodings is found in the text and in table.

SuggestedRemedy

Remove note in text.

Proposed Response *Response Status* **W**

Accept. Delete the second sentence of the paragraph beginning on line 51 and continuing on line 52.

Cl **35** *SC* **35.2.2.8** *P* **35.13** *L* **20** # **41**
Kevin Daines Packet Engines

Comment Type **E** *Comment Status* **D**
Spelling error.

SuggestedRemedy
Change hexidecimal to hexadecimal.

Proposed Response *Response Status* **W**
Accept.

Cl **35** *SC* **35.2.2.9** *P* **35.13** *L* **36** # **123**
Bill Quackenbush cisco Systems

Comment Type **E** *Comment Status* **D**
"and" should be "an".

SuggestedRemedy
See comment.

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.2.2.9** *P* **35.13** *L* **36** # **135**
David Law 3Com

Comment Type **E** *Comment Status* **D**
Typo.

SuggestedRemedy
Suggest text '... indicates and error ...' should read '... indicates an error ...'

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.2.2.9** *P* **35.13** *L* **37** # **39**
Kevin Daines Packet Engines

Comment Type **E** *Comment Status* **D**
Spelling error.

SuggestedRemedy
Change RSC<7:0> to RXD<7:0>.

Proposed Response *Response Status* **W**
Accept.

Cl **35** *SC* **35.2.2.9** *P* **35.13** *L* **37** # **136**
David Law 3Com

Comment Type **E** *Comment Status* **D**
Typo.

SuggestedRemedy
Suggest text '...on RSC<7:0> while ...' should read '... on RXD<7:0> while ...'

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.2.3.5** *P* **18** *L* **43** # **207**
Devendra Tripathi XaQti Corporation

Comment Type **E** *Comment Status* **D**
In the beginning of the line the text "transmit path" is redundant. It has already been mentioned in line 41, in the same sentence.

SuggestedRemedy
Remove the text "on the transmit path" on line 43.

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.2.4** *P* **35.19** *L* **23-25** # **17**
Shimon Muller Sun Microsystems

Comment Type **T** *Comment Status* **D**
See comment #570. This technical comment was accepted during the ballot comment resolution, but the required change was not incorporated into the new draft.

SuggestedRemedy
See comment #570.

Proposed Response *Response Status* **W**
Agreed change was lost among other changes to the table. Delete footnote reference from 35.19 lines 23 and 25, thus removing the application of the footnote to COL as requested in D3.1 comment #570.

Cl **35** *SC* **35.4.1** *P* **35.20** *L* **43-45** # **104**

Bill Quackenbush cisco Systems

Comment Type **E** *Comment Status* **D**

As written, the paragraph suggests that only the physical layer is subject to this issue.

SuggestedRemedy

Replace the paragraph with the following text.

The potential applied to the input of a GMII receiver may exceed the potential of the receiver's power supply (i.e., a GMII driver powered from a 3.6V supply driving Voh into a GMII receiver powered from a 2.5V supply). Tolerance for dissimilar GMII driver and receiver supply potentials is implicit in these specifications.

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.4.3** *P* **24** *L* **Table 35-9** # **208**

Devendra Tripathi XaQti Corporation

Comment Type **T** *Comment Status* **D**

The period 7.5 ns is out of range of 100 ppm tolerance. On what basis it has been decided ?
Likewise 2.5 ns high comes to about 31% of period (8 ns). Wasn't the duty cycle 40-60 (even if it was 35-65 it is still out of range)

SuggestedRemedy

Correct the values. If I am missing something here, I will appreciate an exlanation.

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.4.3** *P* **35.22** *L* **13-16** # **105**

Bill Quackenbush cisco Systems

Comment Type **E** *Comment Status* **D**

Text was approved at the 9/30-10/1 intermin in Santa Clara for insertion at the beginning of clause 35.4.3. Some of the approved text does not appear in d3.2. As a result, the clarity of the new text is diminished.

SuggestedRemedy

Add the missing text (which is underlined) so that the paragraph reads as follows.

All GMII devices are required to support point to point links. The
---
electrical length of the circuit board traces used to implement these links can be long enough to exhibit transmission line effects and require some form of termination. The implementor is allowed the flexibility to select the driver output characteristics and the termination technique and components to be used with its drivers in point to point links.

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.4.3** *P* **35.22** *L* **50** # **107**

Bill Quackenbush cisco Systems

Comment Type **E** *Comment Status* **D**

Too any "and"s.

SuggestedRemedy

replace the "and" between "GMII driver process variation" and "worst case transmission line impedance" with a comma.

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.4.3** *P* **35.23** *L* **26-28** # **108**

Bill Quackenbush cisco Systems

Comment Type **E** *Comment Status* **D**

As written, the AC thresholds apply only to the clocks.

SuggestedRemedy

Add "and the AC measurement thresholds." to the end of the sentence.

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.4.3** *P* **35.23** *L* **50-53** # **109**
Bill Quackenbush cisco Systems

Comment Type **E** *Comment Status* **D**
Sentence needs some clean up.

SuggestedRemedy
Change the second word to the plural "implementations"

Delete "of the data path" from the end of the sentence.

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.4.3** *P* **35.24** *L* **10** # **111**
Bill Quackenbush cisco Systems

Comment Type **E** *Comment Status* **D**
The title of Table 35-9 is not symmetric with the title of Table 35-10.

SuggestedRemedy
Change the title of Table 35-9 to

"AC specifications for GMII transmit signals".

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.4.3** *P* **35.24** *L* **6** # **110**
Bill Quackenbush cisco Systems

Comment Type **E** *Comment Status* **D**
Change "insure" to ensure"

SuggestedRemedy
See comment.

Proposed Response *Response Status* **O**

Cl **35** *SC* **35.5.3.2** *P* **35.27** *L* **49** # **61**
Brad Booth Jato Technologies, Inc

Comment Type **E** *Comment Status* **D**
Correct to Comment is incorrect.

SuggestedRemedy
Change Comment to be... At GMII of PHY or GMII of repeater port

Proposed Response *Response Status* **W**
Accept.

Cl **35** *SC* **35.5.3.2** *P* **35.28** *L* **29 to 34** # **137**
David Law 3Com

Comment Type **E** *Comment Status* **D**
Suggest that both SF27a and SF27b are both depended on being connected to a

repeater. This may require another condition or a rewording of the text. Possibly the shall should be in the repeater clause and there should only be descriptive text here.

SuggestedRemedy
See above.

Proposed Response *Response Status* **O**

Cl **36** *SC* **36** *P* **36.1** *L* **1** # **101**

Scott Mason — Plaintree Systems Inc.

Comment Type **E** *Comment Status* **D**

Typos and minor grammatically errors in clause 36.

SuggestedRemedy

In figure 36-1, page 36.3, "CALBING" should be "CABLING".

In 36.2.4.4, page 36.7, line 54, "group" was changed to "groups" in D3.2. The singular was correct. Restore the original text.

In 36.2.4.6, page 36.8, item (a), "are" should be "is".

In table 36-1, the column "Current RD" should be "Current RD -"

In table 36-2, the column "Current RD" should be "Current RD -"

Proposed Response *Response Status* **O**

Cl **36** *SC* **36** *P* **36.1** *L* **1** # **99**

Scott Mason — Plaintree Systems Inc.

Comment Type **TR** *Comment Status* **D**

Clause 36 is inconsistent in its description of the PCS client. At times the client is called: MAC, reconcilliation sub-layer, GMII, repeater, PCS client, or combinations of these such as: MAC via reconcillation sub-layer and GMII.

SuggestedRemedy

In some instances, it may be necessary to call out the repeater specifically. In all other instances, use one reference consistently.

To me, MAC and reconcillation sub-layer appear to exclude repeaters.

Proposed Response *Response Status* **O**

Cl **36** *SC* **36.1.4.1** *P* **36.2** *L* **22** # **100**

Scott Mason — Plaintree Systems Inc.

Comment Type **TR** *Comment Status* **D**

New text that reads "for half-duplex PHYs" was added to item b. 1000 Base-X does not support half-duplex PHYs.

I don't see how this text adds value. The PCS always generates carrier sense and collision detect and so the qualification is unnecessary. True, the GMII specification allows these signals to be don't care during full-duplex operation but the PCS does not use this allowance.

SuggestedRemedy

Strike the text "for half-duplex PHYs".

Proposed Response *Response Status* **O**

Cl **36** *SC* **36.1.5** *P* **36.3** *L* **48** # **47**

Kevin Daines — Packet Engines

Comment Type **E** *Comment Status* **D**

The acronym TBI is not previously defined. Clause 36 describes GMII, for example, in 36.1.5, even though it was defined in 36.1.4.1, yet doesn't explain TBI.

SuggestedRemedy

Add the text "ten-bit interface" to line 48.

Proposed Response *Response Status* **O**

Cl **36** *SC* **36.1.5** *P* **36.3** *L* **48** # **164**

David Law — 3Com

Comment Type **E** *Comment Status* **D**

Please define the meaning of 'TBI' before using it.

SuggestedRemedy

Suggest text '... as the TBI ...' should read 'as the ten-bit interface (TBI) ...'

Proposed Response *Response Status* **O**

Cl **36** *SC* **36.2.4.15** *P* **36.17** *L* **51** # **188**

Don Wong 3Com Corp

Comment Type **E** *Comment Status* **D**

TX_ER should also be mentioned as being = 1, to cause the generation of /R/.

SuggestedRemedy

modify sentence "The deassertion of TX_EN causes" to
The deassertion of TX_EN and assertion of TX_ER causes".

Proposed Response *Response Status* **O**

Cl **36** *SC* **36.2.4.15** *P* **36.18** *L* **4** # **195**

Don Wong 3Com corp

Comment Type **E** *Comment Status* **D**

On lines 4 & 5, a reference is made to EPD2 and EPD3, however on page 36.20 the definition of EPD2 & EPD3 (lines 41 & 45, respectively) have been removed.

SuggestedRemedy

for line 4, remove "EPD2:".
for line 5, remove "EPD3:".

Proposed Response *Response Status* **O**

Cl **36** *SC* **36.2.4.16** *P* **36.18** *L* **35** # **97**

Scott Mason Plaintree Systems Inc.

Comment Type **E** *Comment Status* **D**

New text states that "The PCS indicates reception of /V/ or an invalid code-group on the GMII through the use of RX_DV signal asserted and the RX_ER signal asserted".

This describes a data error, which is correct when the PCS receiver context is in state RECEIVE. However, it is not correct at other times. In state EPD2_CHECK_END, the same receive data is interpreted as an extend error. Because of open issues, it is not clear to me how this receive data will be interpreted at other times.

SuggestedRemedy

The receive PCS ignores /V/ or invalid-code groups or interprets them as false carrier, data errors, or carrier extend errors, depending on its current context. Sustained reception of invalid-code groups may cause loss of synchronisation.

Proposed Response *Response Status* **O**

Cl **36** *SC* **36.2.4.17** *P* **36.18** *L* **46** # **98**

Scott Mason Plaintree Systems Inc.

Comment Type **TR** *Comment Status* **D**

The second paragraph states that "The conversion from a MAC frame to code-group stream and back to a MAC frame is transparent to the MAC."

This is not correct according to 36.2.4.15 (d) due to idle alignment.

SuggestedRemedy

Strike the paragraph.

Proposed Response *Response Status* **O**

Cl **36** *SC* **36.2.4.17** *P* **36.18** *L* **46** # **46**

Kevin Daines Packet Engines

Comment Type **E** *Comment Status* **D**

The PCS encapsulates packets. We fixed this in the previous paragraph but missed it on line 46 and on line 49.

SuggestedRemedy

Change "frame" to "packet" on line 46 (twice) and on line 49 (once).

Proposed Response *Response Status* **O**

Cl **36** *SC* **36.2.4.7.1** *P* **36.15** *L* **4** # **11**

Don Alderrou Seeq Technology

Comment Type **E** *Comment Status* **D**

Tables 36-1 Valid data code-groups, 36-2 Valid special code-groups, and 36-3 Defined ordered_sets are inconsistent and confusing. Table 36-3 has columns for Beginning RD and Ending RD, but Tables 36-1 and 36-2 do not.

SuggestedRemedy

Either add the Beginning RD and Ending RD columns to Tables 36-1 and 36-2 or remove the Beginning RD and Ending RD columns from Table 36-3.

Proposed Response *Response Status* **O**

Cl **36** *SC* **36.2.5.1.1** *P* **36.20** *L* **7** # **48**

Kevin Daines Packet Engines

Comment Type **E** *Comment Status* **D**

Formatting problem.

SuggestedRemedy

"/x/" should be left justified I believe.

Proposed Response *Response Status* **O**

Cl **36** *SC* **36.2.5.1.2** *P* **36.20** *L* **47** # **196**

Don Wong 3Com corp

Comment Type **E** *Comment Status* **D**

/INVALID/ is end of the line. should be at the beginning of a line

SuggestedRemedy

align /INVALID/ so that align with /I/

Proposed Response *Response Status* **O**

Cl **36** *SC* **36.2.5.1.2** *P* **36.20** *L* **48-50** # **49**

Kevin Daines Packet Engines

Comment Type **E** *Comment Status* **D**

Lines 48-50 are duplicates of lines 27-29 and not needed I believe.

SuggestedRemedy

Remove lines 48-50.

Proposed Response *Response Status* **O**

Cl **36** *SC* **36.2.5.1.3** *P* **36.22** *L* **12** # **50**

Kevin Daines Packet Engines

Comment Type **E** *Comment Status* **D**

Spelling error (or grammatical error).

SuggestedRemedy

Change "applications" to "application"

- OR -

Change "...any other applications" to "...other applications".

Proposed Response *Response Status* **O**

Cl **36** *SC* **36.2.5.2** *P* **36.27-30** *L* # **72**

Benjamin Brown Cabletron Systems, In

Comment Type **E** *Comment Status* **D**

The Transmit and Receive state diagrams each cover 2 pages. Designing to these would be much easier if the pairs were on facing pages.

SuggestedRemedy

Modify the clause layout such that the Transmit ordered-set and Transmit code-group state diagrams are on facing pages. modify the clause layout such that the Receive part a and Receive part b state diagrams are on facing pages.

Proposed Response *Response Status* **O**

Cl **36** *SC* **36.2.5.2** *P* **36.29** *L* **24** # **54**

Jon Frain UNH InterOperability L

Comment Type **T** *Comment Status* **D**

Recent changes in the receive state diagram have created a problem in that errors in the /I/ interpacket gap preceding /S/ can cause a packet or a burst of packets to be lost. Specifically, if one or more errors occur in the /D/ code group preceeding /S/, the state machine transitions to the RX_INVALID state. If the next code_group received is /S/ then the machine transition to the WAIT_FOR_K state. The state machine gets stuck in the WAIT_FOR_K state until an /I/ ordered_set is seen again.

In Draft 3.1, the receive process was able to receive a packet even if the IDLE preceding /S/ had an invalid /D/ code_group. This was because the transition from IDLE_K to IDLE_D was predicated upon the reception of (!/D21.5/*!/D2.2/). Which allowed for the reception of an /INVALID/ code_group.

As it stands in Draft 3.2, Idle is interpreted as:
SUDI(/D/*![/D21.5/]*![/D2.2/]

Which doesn't allow for the reception of an invalid code_group after /K28.5/. Which means that if the /I/ ordered_set prior to /S/ was corrupted, the entire packet, or burst of packets would be dropped.

SuggestedRemedy

Change the transition from RX_K to IDLE_D to be:

(xmit!=DATA*SUDI(/D/*!/D21.5/*!/D2.2/))+(xmit=DATA*SUDI(!/D21.5/*!/D2.2/)

Change the transition from RX_K to RX_INVALID to be:

SUDI(!/D/)*xmit!=DATA

Proposed Response *Response Status* **O**

Cl **36** *SC* **36.2.5.2.1** *P* **36.28** *L* **4** # **73**

Benjamin Brown Cabletron Systems, In

Comment Type **E** *Comment Status* **D**

PCS transmit code-group state diagram state : GENERATE_code_groupS should be uppercased.

SuggestedRemedy

Make this state GENERATE_CODE_GROUPS.

Proposed Response *Response Status* **O**

Cl **36** *SC* **36.2.5.2.2** *P* **36.27** *L* **13** # **93**

Scott Mason Plaintree Systems Inc.

Comment Type **E** *Comment Status* **D**

The transitions from PCS transmit states CONFIGURATION and IDLE to state TX_TEST_XMIT are redundant. Exit from these states is always by global entry via xmitCHANGE.

SuggestedRemedy

Strike the arcs.

Proposed Response *Response Status* **O**

Cl **36** *SC* **36.2.5.2.2** *P* **36.27** *L* **5** # **94**

Scott Mason Plaintree Systems Inc.

Comment Type **TR** *Comment Status* **D**

If xmit becomes DATA while the GMII client is sending a packet, the transmit PCS will place a start delimiter on the packet in progress, incorrectly authenticating the fragment. The transition from auto-negotiation to client packets should be accomplished frame-synchronously.

SuggestedRemedy

In the PCS transmit ordered_set state diagram, add "and TX_EN = FALSE and TX_ER = FALSE" to the transition from state TX_TEST_XMIT to state XMIT_DATA. In state TX_TEST_XMIT, add an assignment of /I/ to tx_o_set.

Proposed Response *Response Status* **O**

Cl **36** *SC* **36.2.5.2.2** *P* **36.29** *L* **32** # **2**

Mike Morrison
Yago Systems

Comment Type **T** *Comment Status* **D**

The transition from state IDLE_D to RX_INVALID causes a potential deadlock situation. Upon completion of autonegotiation, one end of the link can complete autonegotiation and transition to the (xmit=DATA) state prior to the other. The link which is in the (xmit=DATA) state then begins transmitting packets. The other end of the link is in the (xmit=IDLE) state when it receives the start of frame delimiter from its link partner. The resulting transition from IDLE_D to RX_INVALID will trigger RUDI(INVALID), which will restart the autonegotiation process.

SuggestedRemedy

Change the actions in state RX_INVALID to:

IF (xmit=CONFIGURATION)
THEN RUDI(INVALID)

Proposed Response *Response Status* **O**

Cl **36** *SC* **36.2.5.2.2** *P* **36.29** *L* **42** # **91**

Scott Mason
Plaintree Systems Inc.

Comment Type **TR** *Comment Status* **D**

Recent major revisions have been made to the PCS receive state diagram to enable /C/ and /I/ to be always sent to the auto-negotiation process. The following issues have been introduced:

Consider the state transitions RX_K ==> RX_INVALID ==> WAIT_FOR_K. If a packet or burst of packets arrives while the receiver is in the states RX_INVALID or WAIT_FOR_K, the packet(s) will not be delivered to the client nor will carrier sense be generated.

If a data error during idle causes the receiver to take the transition from state RX_K to state RX_CB, the start delimiter for the next packet would direct the receiver to the state RX_INVALID.

RUDI(I), as signalled in state IDLE_D, is not correct when IDLE_D was reached via EARLY_END and the early end was due to a receive /C/.

SuggestedRemedy

Divide the receiver into two processes operating concurrently. Both processes operate from SUDI. One process serves the GMII client. The second process serves the auto-negotiation process.

The first process is comprised of the states: WAIT_FOR_K, RX_K, IDLE_D, CARRIER_DETECT, FALSE_CARRIER, LINK_FAILED, and all of the receive diagram part b. In this process:

- o Delete the transitions from state RX_K to state RX_CB, from state RX_K to state RX_INVALID, and from state IDLE_D to state RX_INVALID
- o Change the transition from RX_K to IDLE_D to become: SUDI
- o Change the transition from IDLE_D to RX_K to become: SUDI and ((xmit /= DATA) or (carrier_detect = FALSE))

The second process is comprised of the states: RX_CB, RX_CC, RX_CD, RX_INVALID, and copies of states WAIT_FOR_K, RX_K, IDLE_D, and LINK_FAILED. In this process:

- o Delete the transition from state IDLE_D to state CARRIER_DETECT
- o Change the transition from IDLE_D to RX_K to become: SUDI(K28.5)
- o Change the transition from IDLE_D to RX_INVALID to become: SUDI(!K28.5)

Proposed Response *Response Status* **O**

Cl **36** *SC* **36.2.5.2.2** *P* **36.30** *L* **38** # **92**
Scott Mason Plaintree Systems Inc.

Comment Type **E** *Comment Status* **D**

The assignment of TRUE to RX_ER in PCS receive state EXTEND_ERR is redundant. No path exists to this state where RX_ER is not already TRUE.

SuggestedRemedy

Strike the assignment.

Proposed Response *Response Status* **O**

Cl **36** *SC* **36.3.3** *P* **36.36** *L* **36** # **51**
Kevin Daines Packet Engines

Comment Type **E** *Comment Status* **D**

Spelling error.

SuggestedRemedy

Change "manufactures" to "manufacturers"

Proposed Response *Response Status* **O**

Cl **36** *SC* **36.3.6.2** *P* **36.44** *L* **20** # **27**
Brad Booth Jato Technologies, Inc

Comment Type **E** *Comment Status* **D**

extra period in last sentence of footnote

SuggestedRemedy

remove it... :-)

Proposed Response *Response Status* **O**

Cl **36** *SC* **36.5.1** *P* **36.45** *L* **37** # **28**
Brad Booth Jato Technologies, Inc

Comment Type **E** *Comment Status* **D**

need a period at the end of the last sentence in the paragraph

SuggestedRemedy

add it...

Proposed Response *Response Status* **O**

Cl **36** *SC* **36.5.1** *P* **36.45** *L* **37** # **52**
Kevin Daines Packet Engines

Comment Type **E** *Comment Status* **D**

Punctuation mistake.

SuggestedRemedy

Add a "." after "be equal" to read:

"be equal."

Proposed Response *Response Status* **O**

Cl **36** *SC* **36.5.1** *P* **36.46** *L* **18** # **26**
Brad Booth Jato Technologies, Inc

Comment Type **E** *Comment Status* **D**

need a space between "CRS" and "de-assert"

SuggestedRemedy

add it...

Proposed Response *Response Status* **O**

Cl **36** *SC* **36.5.1.3** *P* **36.21** *L* **27** # **96**
Scott Mason Plaintree Systems Inc.

Comment Type **E** *Comment Status* **D**

The new variables cgbad and cggood include the comparision:

rx_code_group = /INVALID/

This is not valid syntax. rx_code_group and /INVALID/ are not of the same type.

SuggestedRemedy

Change to: rx_code_group is a member of /INVALID/.

Proposed Response *Response Status* **O**

Cl **36** *SC* **36.5.1.4** *P* **36.24** *L* **9** # **95**

Scott Mason Plaintree Systems Inc.

Comment Type **TR** *Comment Status* **D**

In D3.2, a change was introduced that "detects carrier when a two or more bit difference between [/x/] and the expected /K28.5/ based on the current running disparity exists"

Using the expected /K28.5/ introduces a problem. When a single-bit (or more) error in the data portion of the /I/ inverts the receiver's running disparity, the /K28.5/ of the following valid /I/ appears as a 10-bit difference from the expected /K28.5/ and sends the process to the state FALSE_CARRIER.

There are three unfortunate effects of this. False carrier management counters are polluted by single-bit errors in the idle stream. Receive packets or bursts of receive packets can be lost during the state FALSE_CARRIER. And shared-network performance is adversely affected by false carrier signalled to repeater ports.

SuggestedRemedy

Change "a two or more bit difference" to "a two to nine bit difference".

Phrased another way: "a two or more bit difference and not /K28.5+/ and not /K28.5-/"

Proposed Response *Response Status* **O**

Cl **36A** *SC* **36A.4** *P* **36A.2** *L* **18 & 24-27** # **74**

Benjamin Brown Cabletron Systems, In

Comment Type **E** *Comment Status* **D**

Disparity Flip bytes are no longer necessary. They should have been removed for D3.2.

SuggestedRemedy

Change line 18 from "1514 data octets (two initial octets plus 126" to "1512 data octets (126" and remove lines 24 through 27.

Proposed Response *Response Status* **O**

Cl **36B** *SC* **36B** *P* **36A.1** *L* # **3**

Amrit Kalla VLSI Tech. Inc.

Comment Type **E** *Comment Status* **D**

The page numbers for Annex 36B are give as 36A.1 and 36A.2. These page numbers are the same as for Annex 36A.

SuggestedRemedy

Change page numbers of Annex 36B to 36B.1 and 36B.2.

Proposed Response *Response Status* **O**

Cl **36B** *SC* **36B** *P* **36A.1** *L* **19** # **53**

Kevin Daines Packet Engines

Comment Type **E** *Comment Status* **D**

<< Note: it should be page "36B.1", but Annex 36A and 36B are both give the same page numbers. >>

Punctuation error.

SuggestedRemedy

Remove extra "." from end of line to read "this behavior."

Also, while we're on the page let's fix the page number (36B.1).

Proposed Response *Response Status* **O**

Cl **36B** *SC* **36B** *P* **36B.1** *L* **50** # **5**

Howie Johnson Signal Consulting

Comment Type **T** *Comment Status* **D**

Please include an additional 8B/10B coding example (our editorial staff mistakenly omitted this example from the draft D3.2).

This example appears in an informative section, and introduces no new requirements or specifications. It is merely an example, showing the consequences of the coding rules elucidated elsewhere in the document.

SuggestedRemedy

Table 36B-3 "A single bit error affects two received code-groups"

RowHeadings:
"Stream, Code-group, Code-group, Code-group" <per Tables 36B-1 and 36B-2>

Row1:
"Transmitted code-group - D23.5 (FCS3) - K29.7 (/T/) - K23.7 (/R/) -"

Row2:
"Transmitted bit stream - 111010 + 1010 - 101110 + 1000 - 111010 + 1000 -"

Row3:
"Received bit stream - 111010 + 1011(a) +(b) 101110 +(c) 1000 - 111010 + 1000 -"

Row4:
"Received code-group - invalid code-group(b) + invalid code-group(d) - K23.7 (/R/) -"

note (a): Bit error introduced (1010 -> 1011)
note (b): Nonzero disparity blocks must alternate in polarity (+ -> -)
Received code-group is not found in table 36-1 or 36-2.
note (c): Nonzero disparity blocks must alternate in polarity (+ -> -)
note (d): Nonzero disparity blocks prevent the propagation of errors and normalize running disparity to the transmitted bit stream (i.e. equivalent to the received bit stream had an error not occurred). All code_groups contained in PCS End_of_Packet delimiters (/T/R/R or /T/R/K28.5/) include nonzero disparity blocks.

Proposed Response *Response Status* **O**

Cl **36B** *SC* **36B** *P* **36B.1** *L* **50** # **4**

Howie Johnson Signal Consulting

Comment Type **E** *Comment Status* **D**

Page numbering appears incorrect.

SuggestedRemedy

Page numbering in annex 36A should be 36A.x.
Page numbering in annex 36B should be 36B.x.

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.1.4.4** *P* **37.3** *L* **45** # **1**

John Cagle Compaq

Comment Type **E** *Comment Status* **D**

bad grammar

SuggestedRemedy

change "but only advertising" to "but only advertise"

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.2.1.7** *P* **37.6** *L* **54** # **69**

Linda Cheng Sun Microsystems

Comment Type **E** *Comment Status* **D**

Add helpful text stolen from Clause 28.2.1.2.5 to explain that a device can be Next Page able but set the NP bit to zero.

SuggestedRemedy

Add to the end of the section the following:
"A device may implement Next Page ability and choose not to engage in Next Page exchange by setting the NP bit to a logic zero."

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.2.2** *P* **37.7** *L* **9** # **56**

Kevin Daines Packet Engines

Comment Type **T** *Comment Status* **D**

This comment will be subject to interpretation. The line in question reads "The first /C/ ordered_sets exchanged ... after [reset] ... contain the Config_Reg base page value ..."

If "exchange" is meant to be "transmit (and receive)" then I would have to say it's incorrect. The first /C/'s actually contain zeroes as per state diagram (states: AN_ENABLE and AN_RESTART).

If, however, "exchange" means transmit(and receive) AND store in a management register then I guess it's okay.

As far technical comments go, this one is a "t" rather than a "T".

SuggestedRemedy

Add text to define "first ordered_sets" for clarification. Something like:

"The Transmit function provides the ability to transmit /C/ ordered_sets. After Power-On, link restart, Auto-Negotiation protocol error, or re-negotiation, the Transmit function transmits /C/ ordered_sets containing zeroes indicating the restart condition. After sending sufficient zeroes, the /C/ ordered_sets contain the Config_Reg base page value defined in 37.2.1. ... "

or words to this effect by a more proficient word-smither :)

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.2.2** *P* **7** *L* **10** # **209**

Devendra Tripathi XaQti Corporation

Comment Type **E** *Comment Status* **D**

"Auto-Negotiation protocol error" has not been defined anywhere. I believe it is referring to "Auto-Negotaion_Error".

SuggestedRemedy

Remove "protocol" word.

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.2.3.1** *P* **37.8** *L* **11** # **30**

Brad Booth — Jato Technologies, Inc

Comment Type **E** *Comment Status* **D**

Statement is incorrect. While receiving a /I/ ordered_set, a RUDI(/I/) is always set by the PCS receive process.

SuggestedRemedy

Change sentence to... "The PCS Receive process sets the RX_UNITDATA.indicate(/I/) message when a /I/ ordered_set is received."

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.2.4.3** *P* **37.10** *L* **7** # **75**

Benjamin Brown — Cabletron Systems, In

Comment Type **E** *Comment Status* **D**

Missing the phrase "and the NP bit set to logic zero".

SuggestedRemedy

Add the phrase "and the NP bit set to logic zero" after the phrase "device shall recognize reception of Message Pages with Null Message Codes".

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.2.4.3** *P* **37.10** *L* **8** # **70**

Linda Cheng — Sun Microsystems

Comment Type **E** *Comment Status* **D**

Add helpful text taken and modified from Clause 28.2.3.4.11 to explain that a device must send a null next page if it is willing to receive next page information but has no information to transmit.

SuggestedRemedy

Add the following after the sentence ending "its link partner's next page information.":
"If both devices advertise Next Page ability in their base pages, then both devices shall send at least one Next Page. If a device advertises Next Page ability and has no information to send but is willing to receive, it sends a null page."

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.2.4.3** *P* **37.9** *L* **45** # **29**

Brad Booth — Jato Technologies, Inc

Comment Type **E** *Comment Status* **D**

Next page operation is also controlled by the Next Page Able bit in register 6.

SuggestedRemedy

Update documentation to reflect control of Next Page Able bit.

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.2.4.3** *P* **37.9** *L* **53** # **32**

Brad Booth — Jato Technologies, Inc

Comment Type **E** *Comment Status* **D**

Statement is invalid. No next page transmission will happen after the base page if the link partner didn't advertise next page ability, if the local device didn't advertise next page ability, or if the local device is not capable of handling next pages.

SuggestedRemedy

Correct the documentation.

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.2.4.3** *P* **8** *L* **54** # **210**

Devendra Tripathi — XaQti Corporation

Comment Type **E** *Comment Status* **D**

The phrase "standard Auto-Negotation" is confusing.

SuggestedRemedy

Replace the sentence "The Next Page function uses standard Auto-Negotation arbitration mechansm to allow ..." by
"The Next Page function is used to allow ...".

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.2.4.3** *P* **9** *L* **49, 54** # **211**

Devendra Tripathi XaQti Corporation

Comment Type **E** *Comment Status* **D**

1. One line 49, the phrase "normal Auto-Negotation" is confusing.
2. On line 54, "a" in "a next page exchange ..." is awkward.

SuggestedRemedy

1. Remove word normal on line 49.
2. Remove "a" at the beginning of line 54.

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.2.4.3.11** *P* **12** *L* **5** # **213**

Devendra Tripathi XaQti Corporation

Comment Type **E** *Comment Status* **D**

"... is invoked unless either the local device or link partner ..." is confusing and if am getting the sentence right, it is wrong even. It seems to imply that when niether local device nor link partner has next pages, it is invoked.

SuggestedRemedy

Replace the sentence with " A next page exchange is not invoked unless both, local device and link partner have next page information to transmit". That is how it is in state diagram.

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.2.4.3.11** *P* **37.12** *L* **5** # **58**

Kevin Daines Packet Engines

Comment Type **E** *Comment Status* **D**

Wrong polarity.

SuggestedRemedy

Change "is invoked" to "is not invoked" to read:

"A next page exchange is not invoked unless either the local device or link partner has next page information to transmit;"

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.2.4.3.11** *P* **37.12** *L* **5** # **33**

Brad Booth Jato Technologies, Inc

Comment Type **E** *Comment Status* **D**

Statement is not clear and not correct.

SuggestedRemedy

a next page exchange is invoked when the local device and the link partner advertise (in their base pages) they have next page information to transmit

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.2.4.3.12** *P* **12** *L* **21** # **214**

Devendra Tripathi XaQti Corporation

Comment Type **E** *Comment Status* **D**

The usage of "may be" here is not consistent with "shall" on line 38.

SuggestedRemedy

Based on the intent I think, "may be" should be replaced by "is".

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.2.4.3.6** *P* **11** *L* **22** # **212**

Devendra Tripathi XaQti Corporation

Comment Type **E** *Comment Status* **D**

"This bit take the opposite..." should be "This bit takes the opposite ..."

SuggestedRemedy

As above.

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.2.4.3.6** *P* **37.11** *L* **22** # **55**

Kevin Daines Packet Engines

Comment Type **E** *Comment Status* **D**

Spelling mistake.

SuggestedRemedy

Change "take" to "takes" to read:

"This bit takes the opposite value..."

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.2.4.3.6** *P* **37.11** *L* **22** # **31**
Brad Booth Jato Technologies, Inc

Comment Type **E** *Comment Status* **D**

Missing "s" in "takes"

SuggestedRemedy

change sentence to "This bit takes the opposite..."

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.2.4.3.8** *P* **37.11** *L* **40** # **76**
Benjamin Brown Cabletron Systems, In

Comment Type **E** *Comment Status* **D**

Extra end square bracket.

SuggestedRemedy

Remove end square bracket.

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.2.5.1** *P* **12** *L* **38** # **215**
Devendra Tripathi XaQti Corporation

Comment Type **E** *Comment Status* **D**

Since here "shall" is used, I believe we should mention here that "registers 7 and 8 need not be implemented if next page is not supported".

SuggestedRemedy

Add this sentence next to sentence on line 38.

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.2.5.1.5** *P* **14** *L* **26, Table** # **216**
Devendra Tripathi XaQti Corporation

Comment Type **T** *Comment Status* **D**

Since next page is optional we should add bit 6.3 as "Link Partner Next Page Able". Please refer to 802.3u pp 251 table 28-5.

SuggestedRemedy

As above.

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.2.5.1.5** *P* **14** *L* **40** # **217**
Devendra Tripathi XaQti Corporation

Comment Type **E** *Comment Status* **D**

"For next pages ..." is confusing because Page Recieved bit is always cleared upon read whether it is because of base page or next page.

SuggestedRemedy

Remove "For next pages" part. The sentence should read as "The Page Received bit shall be ...".

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.2.5.1.8** *P* **37.15** *L* **5** # **34**
Brad Booth Jato Technologies, Inc

Comment Type **E** *Comment Status* **D**

Statement is not correct. Register 15 doesn't indicate the status of Auto-Negotiation.

SuggestedRemedy

Remove reference to Auto-Negotiation.

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.2.5.1.9** *P* **15** *L* **12,15,16** # **218**
Devendra Tripathi XaQti Corporation

Comment Type **E** *Comment Status* **D**

The word signal has been used at some places instead of variable. Some places it should be variable like on line 12. On lines 15 and 16 I am not sure.

SuggestedRemedy

Replace signal by variable in the applicable places.

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.3** *P* **37.22** *L* **10** # **19**

Mike Morrison Yago Systems

Comment Type **E** *Comment Status* **D**

In fig 37-6, state AN_ENABLE, the action:

IF (mr_an_enable=TRUE) THEN
tx_Config_Reg<D15:D0> <=0
xmit<=CONFIGURATION.
ELSE
xmit <=IDLE

is useless, since the state is timeless, and therefore, under all conditions, immediately exited. The xmit and tx_config_reg variables are taken care of in the next state.

SuggestedRemedy

Delete the entire IF an_enable THEN ... ELSE... statement from the AN_ENABLE state.

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.3.1.1** *P* **18** *L* **23,26** # **219**

Devendra Tripathi XaQti Corporation

Comment Type **T** *Comment Status* **D**

Two times it is said here that "mr_page_rx" or "mr_lp_np_rx" must be read for next page exchange to progress. It is incorrect becuase state machines does not wait anywhere for this. The correct statement would be "to avoid overlay of the next page information" and that too is applicable to mr_lp_np_rx only.

SuggestedRemedy

Remove the first sentence on line 23. Replace the last part of the sentence on line 26 namely "... in order for a next page exchange to progress to completion" by "... in order to avoid the overlaying of next page information".

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.3.1.1** *P* **37.17** *L* **28** # **57**

Kevin Daines Packet Engines

Comment Type **E** *Comment Status* **D**

Punctuation mistake.

SuggestedRemedy

Add "." after "one" to read:

"...is set to one."

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.3.1.1** *P* **37.17** *L* **3** # **65**

Rich Taborek G2 Networks, Inc.

Comment Type **T** *Comment Status* **D**

Auto-Negotiation protocol should be invoked whenever the condition signal_detect=FAIL occurs and subsequently singnal_status=OK. This is because the link partner may have changed between these two events. This is a situation which requires AN and suggests reassessment of the attached topology and configuration by the local device.

SuggestedRemedy

Change the definition of the variable an_sync_status as follows:

an_sync_status

Qualified version of sync_status and signal_detect for use by Auto-Negotiation to detect a sync_status timeout condition.

Values: OK; The variable sync_status defined in 36.2.5.1.3 is OK.
FAIL; The variable sync_status defined in 36.2.5.1.3 is FAIL for a duration of greater than or equal to link_timer, or the variable signal_detect defined in 36.2.5.1.3 is FAIL.

Reference signal_dedect in 37.3.1.1.

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.3.1.2** *P* **37.19** *L* **41** # **10**

Don Alderrou — Seeq Technology

Comment Type **T** *Comment Status* **D**

The first sentence of the definition for the ability_match function which starts at line 41 is not clear. The complete sentence is: "For a stream of /C/ and /I/ ordered_sets, this function continuously indicates whether the last three consecutive rx_Config_Reg<D15:D0> values match, ignoring the Acknowledge bit."

The Acknowledge bit is rx_Config_Reg<D14>, but the sentence states that the value of rx_Config_Reg<D15:D0> match. There are two interpretations of this sentence which are conflicting:

a) The Ack bit can be either a '1' or a '0' for each of the three samples.
b) The Ack bit can be '1' for all three samples or '0' for all three samples.

SuggestedRemedy

Since Clause 28 is similar to interpretation "a", the term "rx_Config_Reg<D15:D0>" should be changed to "rx_Config_Reg<D15,D13:D0>" in the entire paragraph which describes the ability_match function.

If interpretation "b" is preferred, then the wording of the first sentence of the definition for the ability_match function should be changed from "... , ignoring the Acknowledge bit." to "... and have the Acknowledge bit either not set or set for all three."

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.3.1.5** *P* **37.22** *L* **14** # **89**

Myles Kimmitt — 3Com

Comment Type **TR** *Comment Status* **D**

There appears to be a state missing in the Autonegotiation State Diagram as it relates to bringing up a port when autonegotiation is disabled. The current state diagram sets the transmit to idle (xmit=>Idle) in the AN_ENABLE state then makes a transition to AN_DISABLE_LINK_OK based only on the management variable mr_an_enable=False. Transmit is then set to data (xmit=>Data). There is no check to see if the link is up and the receiver is working prior to going into the AN_DISABLE_LINK_OK and sending data.

SuggestedRemedy

Add an extra state between AN_ENABLE and AN_DISABLE_LINK_OK which would check the receiver operation and state of link partner (state name: AN_DISABLE_IDLE_DETECT). The transition between AN_ENABLE and AN_DISABLE_IDLE_DETECT would be gated by mr_an_enable=False. In the AN_DISABLE_IDLE_DETECT state the transmitter is still set to idles (xmit=>Idle). Transition out of the AN_DISABLE_IDLE_DETECT state to AN_DISABLE_LINK_OK is gated by idle_match=True which shows that the other end of the link is stable and ready to go.

Note:
There is a lock up condition in the AN_DISABLE_IDLE_DETECT state if the link partner is set to negotiate which is equivalent to the lock up state in ABILITY_DETECT state if the link partner is set not to negotiate. This is assumed to be acceptable because the Autonegotiation State Machine is not designed to handle both types of link partners (IE negotiating or not) on the fly.

Proposed Response *Response Status* **O**

Cl **37** *SC* **37.4** *P* **37.22** *L* **25** # **71**

Linda Cheng — Sun Microsystems

Comment Type **T** *Comment Status* **D**

When mr_np_able = TRUE and mr_adv_ability<16>= 0 there is no condition for exit from the complete_acknowlege state. When this condition occurs the transition should be to Idle_Detect. What this indicates is that a device is NP capable but it has not advertised the capability. The mr_np_able term is redundant to mr_adv_ability<16> in the transition from complete_acknowledge to Next_Page_Wait. If mr_adv_ability<16> =1 then mr_np_able must be TRUE.

SuggestedRemedy

Remove all the mr_np_able terms from the exit conditions out of Complete Acknowledge.

Proposed Response *Response Status* **O**

Cl **37** *SC* **Fig. 37-6** *P* **37** *L* **3** # **90**

Steve Dreyer Seeq Technology

Comment Type **TR** *Comment Status* **D**

One invalid /C/ code will cause autonegotiation to restart because RUD(INVALID) is an input to AN_ENABLE. It was decided in previous meetings that three /C/ codes would be required to do this.

SuggestedRemedy

The current state machines will work fine if RUDI can be set to INVALID only when a receiver is in the RX_INVALID state in Figure 36-7a. So, to minimize state machine changes, a remedy might be to change the definition of RUDI on P. 36.25, L38 to:

INVALID; indicates that an error condition has been detected
while receiveing /C/ or /I/ ordered_sets when the
variable xmit!=DATA;

Proposed Response *Response Status* **O**

Cl **38** *SC* *P* **38.9** *L* # **187**

Geoff Thompson Bay Networks

Comment Type **TR** *Comment Status* **D**

I can not approve a standard that has such a large unsolved technical deficiency as that alluded to in the rather cryptic note on page 38.6 & 38.9.

The success of 802.3 as a standard is based on the ability for customers to purchase or utilize existing system components that meet the specifications in the standard and plug them together and have them work in a predictable reliable and useful manner. This includes being able to replace any one component with an equivalent compliant component from another manufacturer and resume predictable reliable and useful operation.

The discussions surrounding the operation of multi-mode fiber links with laser based transceivers have not assured me that we will meet this level of quality and reliability with the current set of specifications.

SuggestedRemedy

Provide sufficient data and revisions to specifications to provide reliable system elements for multi-mode transceivers and fiber. Revise specifications so that fiber, transceiver and any added launch conditioning devices or methods assure reliable operation under specification worst case operating conditions. Such conditions will be reviewed by 802.3 for their adequacy against the 5 Criteria and the project objectives.

Proposed Response *Response Status* **O**

Cl **38** *SC* **38.1.1** *P* **38.1** *L* **47 & 48** # **165**

David Law 3Com

Comment Type **E** *Comment Status* **D**

Suggest text 'These PMD sublayers within 1000BASE-X PMD services are described in an abstract manner and ...' is not clear.

SuggestedRemedy

Suggest text should read ' 'These PMD sublayers are described in an abstract manner and ...'

Proposed Response *Response Status* **O**

Cl **38** *SC* **38.1.1** *P* **38.2** *L* **1** # **166**

David Law 3Com

Comment Type **E** *Comment Status* **D**

General comment on clause. '... of encoded 8B/10B characters ...'. Is it correct that the 8B/10B characters are encoded or are the characters 8B/10B

encoded ?

SuggestedRemedy

Please correct if necessary.

Proposed Response *Response Status* **O**

Cl **38** *SC* **38.1.1** *P* **38.2** *L* **12** # **167**

David Law 3Com

Comment Type **E** *Comment Status* **D**

General comment on clause. I don't think the style used for the note is correct. For example 'Note -Delay ...' should read 'Note-Delay ...'. Also I

am not sure that the dash is the correct type.

SuggestedRemedy

Please correct if necessary.

Proposed Response *Response Status* **O**

Cl **38** *SC* **38.10** *P* **38.10** *L* **All** # **103**

Ray Lin Digital Equipment Cor

Comment Type **T** *Comment Status* **D**

Insert recommendation (standard reference) for optical power loss measurements of installed multimode fiber cable plant.

SuggestedRemedy

Reference: ANSI/TIA/EIA-526-14A, Method B
ANSI/TIA/EIA-526-7, Method A-1.
IEC 1280
1280-4
1280-4-1

Proposed Response *Response Status* **O**

Cl **38** *SC* **38.10** *P* **38.16** *L* **48** # **79**

Joe Gwinn Raytheon

Comment Type **TR** *Comment Status* **D**

Table 38-11 "Channel insertion loss" is a bit confusing as it nowhere explicitly states the ranges in meters used to compute the given channel attenuations. I assume that these attenuations are for the entire link (not per kilometer), as specified in some unspecified other table in clause 38.

SuggestedRemedy

Please specify (in section 38.11), either by specific reference or directly in meters, what link lengths are assumed.
Don't make the reader hunt and guess.

Proposed Response *Response Status* **O**

Cl **38** *SC* **38.11** *P* **38.17** *L* **5** # **174**

David Law 3Com

Comment Type **E** *Comment Status* **D**

Suggest '... the optical connector plug specified in 38.11.3.' is not correct as 38.11.3 is an informative drawing of the connector. The connector is actually specified in subclause 38.11.2

SuggestedRemedy

Suggest '... the optical connector plug specified in 38.11.3.' should read '... the optical connector plug specified in 38.11.2.'

Proposed Response *Response Status* **O**

Cl **38** *SC* **38.11.2.3** *P* **38.19** *L* **3 & 5** # **175**

David Law 3Com

Comment Type **E** *Comment Status* **D**

I may have missed it but I cannot find the PICSs entries for the two new shalls added here.

SuggestedRemedy

Add PICSs entries is required.

Proposed Response *Response Status* **O**

Cl **38** *SC* **38.12.3** *P* **38.22** *L* **14 to 19** # **176**

David Law 3Com

Comment Type **E** *Comment Status* **D**

Suggest that the SD entry in the Major options table is not longer required

as this is no longer an option. SD is also no longer required as a condition for any other entries.

SuggestedRemedy

Remove *SD entry from PICS. Change entry FN6 from 'Signal detect' to 'Signal detect function' to promote it to the same level as 'Transmit function' and 'Receive function'

Proposed Response *Response Status* **O**

Cl **38** *SC* **38.12.4.1** *P* **38.23** *L* **22 to 32** # **177**

David Law 3Com

Comment Type **E** *Comment Status* **D**

Delete the condition 'SD' from entries FN6 to FN8 as Signal detect is now mandatory.

SuggestedRemedy

Change text 'SD:M' to 'M' in these three entries. Not that the Support column is already correct.

Proposed Response *Response Status* **O**

Cl **38** *SC* **38.12.4.2** *P* **38.23** *L* **45** # **81**

Joe Gwinn Raytheon

Comment Type **E** *Comment Status* **D**

A "lessor" is someone who leases something; "lesser" was intened.

SuggestedRemedy

Replace "lessor" with "lesser".

Proposed Response *Response Status* **O**

Cl **38** *SC* **38.2.4** *P* **38.4** *L* **45** # **168**

David Law 3Com

Comment Type **E** *Comment Status* **D**

"Text '... PMD_SIGNAL.indicate (SIGNAL_DETECT)' should read'... PMD_SIGNAL.indicate(SIGNAL_DETECT)', that is remove the incorrect additional space."

SuggestedRemedy

See comment.

Proposed Response *Response Status* **O**

Cl **38** *SC* **38.3** *P* **38.6** *L* **17** # **169**

David Law 3Com

Comment Type **E** *Comment Status* **D**

This note is no longer is complete.

SuggestedRemedy

Suggest '... done in accordance with.' should read '... done in accordance with Annex 38B'

Proposed Response *Response Status* **O**

Cl **38** *SC* **38.3** *P* **38.6** *L* **5** # **185**

Howie Johnson Signal Consulting

Comment Type **TR** *Comment Status* **D**

Clause 38 includes references to non-international standards. Here are the six locations I found (has anyone spotted any others??).

P38.12/L8 TIA/EIA-455-127
P38.12/L15 TIA/EIA/455-95
P38.12/L20 TIA/EIA/526-4
P38.12/L30 ANSI X3.230-1994:FC-PH, Annex A, subclause A.5, "Relative intensity noise (RIN) measurement procedure"
P38.14/L13 ANSI X3.230-1994:FC-PH, Annex A, subclause A4.2, "Active output interface eye opening measurement"
P38.14/L45 ANSI X3.230-1994:FC-PH Annex A, subclause A.4.3, "DJ Measurement"

Our 802.3 chairman informs me that since we are an ISO-track document, we must not include non-international references in the normative part of our standard unless there is no alternative.

SuggestedRemedy

Please confirm whether alternative international references exist that could be used in place of these parochial ones.

Proposed Response *Response Status* **O**

Cl **38** *SC* **38.3** *P* **38.6** *L* **5** # **186**

Howie Johnson Signal Consulting

Comment Type **TR** *Comment Status* **D**

The fundamental issue underlying D3.1 comment #754 has not yet been resolved. Attached is a copy of the record for D3.1 comment #754.

Original comment -
"The Annex 38A physical media dependent link model used to establish link penalties may need to include a differential mode delay (DMD) parameter and measurement specification. Measurements performed at Digital have shown eye pattern closure due to what may be the differences in the differential model delay (DMD) characteristics of multimode fibers not addressed in the link model i.e., as a power penalty."

Original suggested remedy -
"Lab measurements will be performed at Digital Equipment Corporation to characterize the DMD parameter relative to 802.3/z operation. Preliminary data should be available by the September Interim."

Original response from the committee -
"ACCEPT. <approved at 09/11 interim> The committee directs Del Hanson to bring response/plan to Santa Clara Meeting"

Additional response 9/30/97:
"Add an editorial note to the document, under each table that shows operating range: "An Ad hoc Modal Bandwidth Investigation (MBI) Group was formed at the London Interim Meeting to respond to comment # 754. IEEE 802.3z should be aware that multi-mode fiber link lengths may need to be reduced to assure worst case operation. The Ad hoc MBI group will report its results at the November Plenary meeting."

SuggestedRemedy

In table 38-2, change the title of column 2 to read:
"Minimum range (meters) for generic ISO 11801 fiber"

Change the numbers in column 2 to correspond to the "worst-case" numbers for distance, meaning that a link with a worst-case transmitter, and a worst-case receiver, with generic fiber, and no attempt made to condition the launch, should work 99% of the time at these distances.

Append a new column 3 to the table.
Title the new column,
"Minimum range (meters) for laser-certified fiber"

Fill in numbers for column 3 which show what we can do with 99% confidence when used with worst case transmitter and receiver and no attempt made to condition the launch. For SMF, use "N/A".

Add three notes to the title of column 3, to read:
(1) "Multi-mode fibers meeting all the performance criteria of ISO 11801, and for which the WCMB (see Annex 38B) equals or exceeds the specified OFL bandwidth, are called laser-certified fibers."
(2) "It is expected that these distances will be achievable on at least 80% of all generic ISO 11801 fiber"
(3) "Special launch-conditioning devices, and launch-conditioned transmitters, may be used to operate at these distances, or greater, using generic ISO 11801 fiber."

Make corresponding changes to table 38-6.

Change the title of Annex 38B "Modal bandwidth and launch conditions" to read "Laser certification method for multimode fiber-optic cables"

Append to section 38A.4 the sentence:
"Multi-mode fibers meeting all the performance criteria of ISO 11801, and for which the ROFL bandwidth equals or exceeds the specified OFL bandwidth, are called laser-certified fibers".

Add to the informative annexes some limited information about the efficacy of single-mode offset conditioned-launch jumpers.

NOTE that these changes do not mandate the use of an ROFL test. They provide information about the performance of laser-certified fiber, while leaving open the door to develop more manufacturing-friendly tests for laser performance at a later time. Manufacturers are free to use other tests, if they choose, to certify laser performance.

Proposed Response *Response Status* **O**

Cl **38** *SC* **38.3, 38.4, 38.10** *P* **38.3** *L* **Multiple** # **88**

Ray Lin — Digital Equipment Cor

Comment Type **TR** *Comment Status* **D**

The Annex 38A physical media dependent link model used to establish link penalties may need to include a differential mode delay (DMD) parameter and measurement specification. Measurements performed at Digital have shown eye pattern closure due to what may be the differences in the differential model delay (DMD) characteristics of multimode fibers not addressed in the link model i.e., as a power penalty.

SuggestedRemedy

The following are the proposed replacement text changes for the next draft of IEEE 802.3z Clause 38 to resolve this comment.The page and line numbers refer to document D3.2 10/10/97.

The recommended operating distances proposed here are based on the MBI finding as of 10/23/97.

Proposed worst case table number changes

---

cls 38.3, pg 38.6, L 10: change 260 to 100
cls 38.3, pg 38.6, L 11: change 550 to 200

cls 38.3.3, pg 38.8, L 39: change 260 to 100, 550 to 200
cls 38.3.3, pg 38.8, L 42: change 2.47 to 1.90, 3.56 to 2.25
cls 38.3.3, pg 38.8, L 44: change 4.41 to 1.52, 2.86 to 1.45
cls 38.3.3, pg 38.8, L 45: change 0.12 to 3.58, 0.58 to 3.30

cls 38.4, pg 38.9, L 13: change 440 to 100
cls 38.4, pg 38.9, L 14: change 550 to 200

cls 38.4.3, pg 38.11, L 16: change 440 to 100, 550 to 200
cls 38.4.3, pg 38.11, L 20: change 2.18 to 1.65, 2.35 to 1.81
cls 38.4.3, pg 38.11, L 21: change 5.32 to 2.10, 4.55 to 2.22
cls 38.4.3, pg 38.11, L 23: change 0.00 to 3.75, 0.60 to 3.47

cls 38.10, pg 38.16, L 48: change 2.41 to 1.88, 2.16 to 1.65, 3.43 to 2.20 and 2.33 to 1.80

Proposed Response *Response Status* **O**

Cl **38** *SC* **38.3.2 & 38.4.2** *P* **38.8** *L* # **102**

Vince Melendy — Methode Electronics

Comment Type **E** *Comment Status* **D**

The receiver specification for sensitivity the min and max words are reversed on both of these tables. The highest positive number is the minimum and the largest negative number is the maximum.

SuggestedRemedy

Change the word min to max and the word max to min.

Proposed Response *Response Status* **O**

Cl **38** *SC* **38.4** *P* **38.9** *L* **1** # **170**

David Law — 3Com

Comment Type **E** *Comment Status* **D**

Suggest that the diameter of the singlemode fibre supported should be listed in the same way as the multimode fibre is.

SuggestedRemedy

"Suggest text '... 62.5um multimode fiber, and singlemode fibre)' should read '... 62.5um multimode fiber, and 10um singlemode fibre)'"

Proposed Response *Response Status* **O**

Cl **38** *SC* **38.4** *P* **38.9** *L* **19** # **171**

David Law — 3Com

Comment Type **E** *Comment Status* **D**

This note is no longer is complete.

SuggestedRemedy

Suggest '... done in accordance with.' should read '... done in accordance with Annex 38B'

Proposed Response *Response Status* **O**

Cl **38** *SC* **38.5** *P* **38.11** *L* **33** # **86**

Paul Kolesar — Lucent Technologies

Comment Type **TR** *Comment Status* **D**

Due to the recently discovered jitter generation caused by the possible equal-amplitude split-impulse response of multimode fiber when excited by unconditioned laser sources, the jitter budget is broken. Some portion of the jitter budget must be allocated to this type of jitter in order to ensure workable links of any length when using launch conditions that can cause equal amplitude split impulse behavior. In addition, a measurement method for characterizing this type of jitter must be agreed upon and documented.

SuggestedRemedy

Possible remedies include:
1. Allocating sufficient jitter to support the link lengths specified when using unconditioned laser launches. The required amount of jitter allocation is directly related to the differential mode delay (DMD) of the fiber. Lucent, Corning and Spectran have jointly stated that the worst case DMD is in the range of 1.5 - 2.0 ps/m for 62.5 um fiber at 1300 nm. DMD is probably greater than this at 850 nm. Given the direct relationship of DMD to bandwidth, the 50 um worst case DMD at both 850 and 1300 nm is probably in the same 1.5 - 2.0 ps/m range, since 50 um at 850 and 1300 nm shares the same 500 MHz-km bandwidth with 62.5 um at 1300 nm. Worst case jitter generation is theorized to be equal to the worst case DMD.

2. Avoid jitter generation by requiring launch conditioning that eliminates or reduces the occurance of jitter to an acceptably small probability. Avoiding jitter by launch conditioning should allow link lengths as presently specified in D3.2. Several launch conditioning methods being examined at this time.

Proposed Response *Response Status* **O**

Cl **38** *SC* **38.6.6** *P* **38.13** *L* **51** # **77**

Joe Gwinn — Raytheon

Comment Type **E** *Comment Status* **D**

The term "backed out" is colloquial, and not clear.

SuggestedRemedy

Replace "backed out" with "computed".

Proposed Response *Response Status* **O**

Cl **38** *SC* **38.6.8** *P* **38.14** *L* **15** # **172**

David Law — 3Com

Comment Type **E** *Comment Status* **D**

Suggest text '... shall substitute use of the BT filter ...' should read '... shall substitute the use of the Bessel-Thompson filter ...'

SuggestedRemedy

See comment.

Proposed Response *Response Status* **O**

Cl **38** *SC* **38.9** *P* **38.16** *L* **21** # **173**

David Law — 3Com

Comment Type **E** *Comment Status* **D**

"I do not understand what parameter labelling is required by the statement '... include 62.5 mm MMF, 50 mm MMF', please clarify."

SuggestedRemedy

See comment.

Proposed Response *Response Status* **O**

Cl **38A** *SC* **38A.2** *P* **38.30** *L* **34** # **178**

David Law 3Com

Comment Type **E** *Comment Status* **D**

I note that the extra space at the beginning of the paragraph has been removed. If you want to remove these additional spaces note that most of the other paragraphs in this Annex have this same additional space.

SuggestedRemedy

See comment.

Proposed Response *Response Status* **O**

Cl **38A** *SC* **38A.5** *P* **38.31** *L* **27** # **179**

David Law 3Com

Comment Type **E** *Comment Status* **D**

On the basis of previous changes I have noted suggest that micrometers should use the symbol.

SuggestedRemedy

Suggest text '... and 5 micrometers ...' should read '... and 5 um ...'

Proposed Response *Response Status* **O**

Cl **38A** *SC* **38A.6** *P* **38.32** *L* **4** # **180**

David Law 3Com

Comment Type **E** *Comment Status* **D**

"Is there reference to 38L.7 correct, suggest it should be to 38A.3."

SuggestedRemedy

Suggest text '... of 38L.7 are ...' should read '... of 38A.3 are ...'

Proposed Response *Response Status* **O**

Cl **38B** *SC* **38B.1** *P* **38.30** *L* **30** # **83**

Joe Gwinn Raytheon

Comment Type **T** *Comment Status* **D**

Reference problem: "This method" actually points to restricted launch, while OFL was intended.

SuggestedRemedy

Replace "This method" with "Overfilled launch".

Proposed Response *Response Status* **O**

Cl **38B** *SC* **38B.2** *P* **38.30** *L* **34** # **82**

Joe Gwinn Raytheon

Comment Type **E** *Comment Status* **D**

Stray character.

SuggestedRemedy

Delete leading hyphen.

Proposed Response *Response Status* **O**

Cl **38B** *SC* **38B.2** *P* **38.30** *L* **36** # **84**

Joe Gwinn Raytheon

Comment Type **T** *Comment Status* **D**

Are the document references exact? Specifically, aren't the parenthetical references to "TIA-455-xxx" incomplete, as the "EIA/" prefix is missing? In short, shouldn't these references read "EIA/TIA-455-xxx"?

SuggestedRemedy

Verify reference; correct if needed.

Proposed Response *Response Status* **O**

Cl **38B** *SC* **global** *P* **global** *L* **global** # **80**

Joe Gwinn Raytheon

Comment Type **E** *Comment Status* **D**

Paragraph numbers are wrong. This is annex 38B, but 38A is used.

SuggestedRemedy

Fix paragraph numbers.

Proposed Response *Response Status* **O**

Cl **39** *SC* **39.3.1** *P* **39.4** *L* **30** # **192**

Kelly McClellan SMC

Comment Type **E** *Comment Status* **D**

typographical error? in Table 39-2

SuggestedRemedy

change "Differential (Skew)" to "Differential Skew"
or "Differential Skew (maximum)"

Proposed Response *Response Status* **O**

Cl **39** *SC* **39.3.2** *P* **39.6** *L* **39** # **194**

Kelly McClellan SMC

Comment Type **E** *Comment Status* **D**

a Differential Sensitivity - Maximum of 2000mV is specified,
but the intent seems to be specifying a maximum input level
tolerance, since all receivers should have a sensitivity at
or below the minimum level of 400mV

SuggestedRemedy

Change "Maximum" [indented] to "Maximum Input Level" [not indented]

Proposed Response *Response Status* **O**

Cl **39** *SC* **39.3.2** *P* **39.7** *L* **7** # **193**

Kelly McClellan SMC

Comment Type **E** *Comment Status* **D**

"Differential Sensitivity" is used in Table 39-4
but "receiver sensitivity" is used in line 7 of pg. 39-7

SuggestedRemedy

change "receiver sensitivity" to "differential sensitivity"

Proposed Response *Response Status* **O**

Cl **39** *SC* **39.3.3** *P* **39.8** *L* **4** # **181**

David Law 3Com

Comment Type **E** *Comment Status* **D**

"Is the reference to Table 38-8 correct, suggest it should be to Table 38-10."

SuggestedRemedy

Suggest text '... in Table 38-8.' should read '... in Table 38-10.'

Proposed Response *Response Status* **O**

Cl **39** *SC* **39.4** *P* **39.8** *L* **9** # **21**

Steve Brewer 3Com

Comment Type **E** *Comment Status* **D**

Typo in
'A 1000Base-CX compliant jumper cable assembly shall consist of two polarized, shielded PLUG as described in 39.5.1 and shielded, balanced cable with electrical characteristics as described in Table 39-6.'

SuggestedRemedy

'A 1000Base-CX compliant jumper cable assembly shall consist of two polarized, shielded PLUGS as described in 39.5.1 and shielded, balanced cable with electrical characteristics as described in Table 39.6.'

Proposed Response *Response Status* **O**

Cl **39** *SC* **39.5** *P* **39.10** *L* **3** # **22**

Steve Brewer 3Com

Comment Type **E** *Comment Status* **D**

Typo & wording in
'-3, having pinouts matching those in Figure 39.6, and the signal quality AND AND electrical requirements of this clause.

SuggestedRemedy

'-3, having pinouts matching those in Figure 39.6, and CONFORMING TO the signal quality AND electrical requirements of this clause.

Proposed Response *Response Status* **O**

Cl **39** *SC* **39.5.1** *P* **39.9** *L* **49** # **20**

Steve Brewer 3Com

Comment Type **E** *Comment Status* **D**

Typo in 'Style-1 or style-2 connectrors may be used....'

SuggestedRemedy

'Style-1 or style-2 connectors may be used....'

Proposed Response *Response Status* **O**

Cl **39** *SC* **39.5.1.2** *P* **39.10** *L* **22** # **23**

Steve Brewer 3Com

Comment Type **E** *Comment Status* **D**

Similar to previous comment for style 1 connectors...
(Note the typo 39-7-)
'-103, having pinouts matching those shown in Figure 39-7-,and the signal quality and electrical requirements of this clause.'

SuggestedRemedy

'-103, having pinouts matching those shown in Figure 39-7, and CONFORMING TO the signal quality and electrical requirements of this clause.'

Proposed Response *Response Status* **O**

Cl **39** *SC* **39.5.1.2** *P* **39.10** *L* **47** # **24**

Steve Brewer 3Com

Comment Type **T** *Comment Status* **D**

Pin 5 for a style-2 connector has been reserved for two functions.

ie PWR from line 42 and Output Disable from line 47.
Note : Pin 2 has not been reserved.

SuggestedRemedy

Is this correct ?

Proposed Response *Response Status* **O**

Cl **39** *SC* **39.6** *P* **39.12** *L* **3** # **25**

Steve Brewer 3Com

Comment Type **T** *Comment Status* **D**

Type
'Electrical measurements shall be PERFORMMED as described in this...'

SuggestedRemedy

'Electrical measurements shall be PERFORMED as described in this

Proposed Response *Response Status* **O**

Cl **39** *SC* **39.7** *P* **39.13** *L* **47** # **182**

David Law 3Com

Comment Type **E** *Comment Status* **D**

Reference to 11801 seems to be incorrect. If comment accepted also need to correct PICS item OR14 in 39.8.4.4

SuggestedRemedy

Suggest text '... of IS11801 clause ...' should read '... ISO/IEC 11801:1995

Proposed Response *Response Status* **O**

Cl **39** *SC* **39.8.3** *P* **39.15** *L* **14 to 19** # **183**

David Law 3Com

Comment Type **E** *Comment Status* **D**

Suggest that the SD entry in the Major options table is not longer required

as this is no longer an option. SD is also no longer required as a condition for any other entries.

SuggestedRemedy

Remove *SD entry from PICS. Change entry FN9 from 'Signal detect' to 'Signal detect function' to promote it to the same level as 'Transmit function' and 'Receive function'

Proposed Response *Response Status* **O**

Cl **39** *SC* **4** *P* **39.8** *L* **6** # **6**

Robert Campbell Lucent Technologies

Comment Type **TR** *Comment Status* **D**

The text in this sub-clause is not consistent with the resoution of comment 204 of draft 3.1.

SuggestedRemedy

My acceptance of the resolution to comment 204 for draft 3.1 was to treat the jumper cable assembly as a black box. This meant that when a signal as described in 39.3.1 and shown in Figure 39.3 is coupled to the jumper cable assembly at test TP2 the signal at test TP3 shall meet the mask as shown in Figure 39.5. This this is an all inclusive test it was also agreed that the attenuation and Next loss should be removed from Table 39.6 and placed in an information note. Although not agreed to as part of the resolution to comment 204, I believe Differential can also be removed from Table 39.6 and placed in an information note since it is included as part of the black box test.

Also, the test shown in the resolution to comment 204 did not find it way in draft 3.2.

Proposed Response *Response Status* **O**

Cl **39** *SC* **6.5** *P* **39.13** *L* **1** # **9**

Robert Campbell Lucent Technology

Comment Type **T** *Comment Status* **D**

Differentiate this specification from the skew measurement between pairs in a cable.

SuggestedRemedy

Since this measurement is used to determine the skew between two wires of a cable pair rather than between pairs in a cable is recommended for clarification purposes the following changes be made.

1. Add `pair' after `cable' in the title.
2. Add the following sentence at the beginning of line 3.
   The cable pair differential skew measurement is conducted to determine the skew, or difference in velocity, of each wire in a cable pair.
3. Line 7: Change `assembly' to `pair' at both locations.

Proposed Response *Response Status* **O**

Cl **39** *SC* **6.7** *P* **39.13** *L* **25** # **8**

Robert Campbell Lucent Technologies

Comment Type **T** *Comment Status* **D**

Change `NEXT' to `NEXT Loss'.

SuggestedRemedy

This coment was submitted for Draft 3.1 as comment number 189. The response to the comment was that "loss is implied in definition of NEXT". This response is inaccurate and I refer the editor to the IEEE distionary whcih states

1. Crosstalk is undesired energy appearing in one signal path as a result of coupling from other signal paths.
2. Near-end Crosstalk is crosstalk that is propogated in a disturbed channel in the direction opposite to the direction of propogation of the current in the disturbing channel.

>From these definitions crosstalk is signals from a disturbing channel and are measured and defined in terms of volts or watts. When trying to define the loss of the crosstalk coupling path the term crosstalk loss is appropriate and likewise NEXT loss (the loss/attenuation of the near-end crosstalk coupling path), and measured in dB.

Therefore, please change `NEXT' to `NEXT loss'.

Proposed Response *Response Status* **O**

Cl **39** *SC* **6.7** *P* **39.13** *L* **27** # **7**

Robert Campbell Lucent Technologies

Comment Type **TR** *Comment Status* **D**

Add `loss' after `(NEXT)'.

SuggestedRemedy

This coment was submitted for Draft 3.1 as comment number 190. The response to the comment was that "loss is implied in definition of NEXT". This response is inaccurate and I refer the editor to the IEEE distionary which states

1. Crosstalk is undesired energy appearing in one signal path as a result of coupling from other signal paths.
2. Near-end Crosstalk is crosstalk that is propogated in a disturbed channel in the direction opposite to the direction of propogation of the current in the disturbing channel.

>From these definitions crosstalk is signals from a disturbing channel and are measured and defined in terms of volts or watts. When trying to define the loss of the crosstalk coupling path the term crosstalk loss is appropriate and likewise NEXT loss (the loss/attenuation of the near-end crosstalk coupling path), and measured in dB.

Therefore, please change `NEXT' to `NEXT loss'.

Proposed Response *Response Status* **O**

Cl **41** *SC* **41.1.1** *P* **41.1** *L* **48** # **18**

Shimon Muller Sun Microsystems

Comment Type **E** *Comment Status* **D**

I believe we agreed that all the notes under the figures should be deleted.

SuggestedRemedy

Delete the note under Figure 41-1, and the asterisks near GMII.

Proposed Response *Response Status* **O**

Cl **42** *SC* **42.3.1** *P* **42.5** *L* **7** # **59**

Kevin Daines
Packet Engines

Comment Type **E** *Comment Status* **D**

SFD has the wrong acronym definition.

Reference - .3z 35.2.2.7 (page 35.11, line 22)
- .3 3.2.2 (page 13)

SuggestedRemedy

Change "start-of-frame delimiter (SFD)"
to
"Start Frame Delimiter (SFD)"

Proposed Response *Response Status* **O**