

## Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 00 SC FM P 3 L 3 # 586  
Healey, Adam Broadcom Inc.

Comment Type T Comment Status D EZ

The abstract is inconsistent with the title of the amendment. This inconsistency is also present on the title page (page 1, line 34) and on page 23, line 13.

### SuggestedRemedy

Change ".on single balanced pair copper cabling." to "over a single balanced pair of conductors." Correct similar inconsistencies throughout the draft.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 586. Resolve with 363, 606, and 426.

Replace "on single balanced pair copper cabling" with "over a single balanced pair of conductors" on page 3, line 3

Replace "over Single Balanced Twisted-pair Cabling and Associated Power Delivery" with "and Associated Power Delivery over a Single Balanced Pair of Conductors" on page 23, line 10

See comments 425 and 447 for new text to replace the sentence on page 1, line 20

CI 00 SC FM P 3 L 3 # 587  
Healey, Adam Broadcom Inc.

Comment Type T Comment Status D EZ

It seems worthy to highlight that "Physical Layer Collision Avoidance (PLCA)" is defined in this amendment.

### SuggestedRemedy

Consider adding "Physical Layer Collision Avoidance" and/or "PLCA" to the list of keywords.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Add ";PLCA; Physical Layer Collision Avoidance" to the list of keywords after Physical Medium Attachment

CI 00 SC FM P 10 L 3 # 739  
Zimmerman, George CME Consulting etal

Comment Type E Comment Status D Late

Need to fill in 802.3cg and title of amendment in boxed note.

### SuggestedRemedy

Change "802.3xx-20xx" to "802.3cg-20xx", and change "Amendment title (copy from PAR)" to "Physical Layer Specifications and Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced Pair of Conductors"

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 00 SC FM P 11 L 33 # 354  
Yseboodt, Lennart Signify

Comment Type E Comment Status D EZ

In the descriptive list of the amendments, the following is highlighted in yellow "x and its amendments", where only "x" should be highlighted.

Occurs on line 33, 39, and 47 of page 11.

### SuggestedRemedy

Fix as appropriate.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Remove yellow highlighting from "z and its ammendments" on lines 33, 39, and 47 of page 11.

Replace "201x" with "2018" on lines 33, 39, and 47 of page 11.

Replace "IEEE Std 802.3btT-201x" with "IEEE Std 802.3btT-2018" on line 37 and remove yellow highlight.

Replace "IEEE Std 802.3cbT-201x" with "IEEE Std 802.3cbT-2018" on line on line 31 and remove yellow highlight.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 00 SC FM P 13 L 56 # 21  
 Anslow, Pete Ciena  
 Comment Type E Comment Status D EZ  
 The variable copyright\_year is set to 2017 in the TOC file  
 SuggestedRemedy  
 Set the variable copyright\_year to 2018 in the TOC file  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 00 SC FM P 23 L 1 # 363  
 Trowbridge, Steve Nokia  
 Comment Type ER Comment Status D EZ  
 The title on page 23 does not match the title at the front of the draft. I think the title on page 1 is correct as the scope is no longer just twisted pair.  
 SuggestedRemedy  
 Change "Physical Layer Specifications and Management Parameters for 10 Mb/s Operation over Single Balanced Twisted-pair Cabling and Associated Power Delivery" to "Physical Layer Specifications and Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced Pair of Conductors"  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Master comment 586. Resolve with 586, 426, and 606.  
 Replace "over Single Balanced Twisted-pair Cabling and Associated Power Delivery" with "and Associated Power Delivery over a Single Balanced Pair of Conductors" on page 23, line 10

CI 00 SC 0 P L # 664  
 Donahue, Curtis UNH-IOL  
 Comment Type E Comment Status D EZ  
 There are many variants of Auto-Negotiation throughout the draft.  
 SuggestedRemedy  
 Scrub draft and change all variants of Auto-Negotiation to "Auto-Negotiation"  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.

Globally search for "AutoNegotiation", "Auto Negotiation", "auto negotiation", and "Auto negotiation" and replace with "Auto-Negotiation".  
 Chief Editor to implement remedy when preparing the files for d2p1.

CI 00 SC 0 P L # 62  
 Anslow, Pete Ciena  
 Comment Type E Comment Status D EZ  
 Comment #10 against D1.0 of the 2008 revision:  
[http://www.ieee802.org/3/axay/comments/D1.0/802.3ay\\_D1p0.pdf](http://www.ieee802.org/3/axay/comments/D1.0/802.3ay_D1p0.pdf)  
 changed all instances of 'state machine' to 'state diagram' (except in deprecated text).  
 This draft contains 48 instances of "state machine" and 77 instances of "state diagram"  
 SuggestedRemedy  
 Change all instances of 'state machine' to 'state diagram' throughout the draft.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

## Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 00 SC 0 P L # 518  
Beruto, Piergiorgio Canova Tech Srl

Comment Type E Comment Status D EZ

Timer done / not done events name in state diagrams are not inline with conventions used in other clauses

### SuggestedRemedy

Replace all occurrences of "XXX Done" with "XXX\_done" (all lowercase) and similarly "!XXX Done" or "XXX not Done" with "XXX\_done = FALSE" (all lowercase) throughout all the clauses. XXX is a placeholder for the timer name. NOTE: resolve this comment when all other comments are resolved already.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Jon Lewis to implement remedy when state diagrams in Clauses 147 and 148 are generated in FrameMaker.

CI 00 SC 0 P 0 L 0 # 663  
Thompson, Geoff GraCaSI S.A.

Comment Type TR Comment Status D Big Ticket Item Repeaters

The use of a repeater in a mixing segment will allow that segment to have separate a 2.4 Vpp operating mode portion and a 1.0 Vpp operating mode portion. This has potential for reducing the cost of some 10BASE-T1S nodes in an automotive network.

### SuggestedRemedy

Make the changes required to enable the use of a cl. 9 repeater with 10BASE-T1S.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 663. Consider with 632, 304, 661, 648, 313, and 659.

Task Force to discuss whether to add repeaters to the draft and whether there is any other reason to specify the AUI reference point. If not, proposed resolution is as follows:

Insert new paragraph after 145, line 25, "Unlike 10 Mb/s Ethernet, e.g., Clauses 9 and 13, repeaters and the AUI interface point are not defined for 10BASE-T1S PHYs."

Insert new paragraph after 85, line 21, "Unlike 10 Mb/s Ethernet, e.g., Clauses 9 and 13, repeaters and the AUI interface point are not defined for 10BASE-T1L PHYs."

Editor's Note: Repeaters are not defined for 10BASE-T1S. The use of repeaters would enable reach extension, but can also bring a number of misconfiguration issues from the past, including that clause 9 has not been maintained. Task Force either needs to define the AUI and state repeaters are in scope, or explicitly state repeaters are not allowed for 10BASE-T1S PHYs.

CI 00 SC 0 P 0 L 0 # 633  
Thompson, Geoff GraCaSI S.A.

Comment Type ER Comment Status D EZ

Draft does not have page numbers that show up on 100% magnification printout on 8.5X11 in paper. I am working from a printout (for cl. 147 at least) so my comments wont include a page number reference.

### SuggestedRemedy

Have page numbers included in the draft page format that will show up on copies printed in default mode (i.e. 100%) on 8.5X11 paper.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Remove the extra paragraph mark between "subject to change" and the page number in both the odd and even master pages in all of the files in the draft.

CI 00 SC 0 P 0 L 0 # 632  
Thompson, Geoff GraCaSI S.A.

Comment Type TR Comment Status D Big Ticket Item AUI

Draft does not conform to the model shown in Figure 22-1 in that there is no AUI specified.

### SuggestedRemedy

Include the specification of an AUI to the specification in order to make this new PHY a fully-fledged and compatible member of the family of 10 Mb/s interfaces.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 663. Consider with 304, 661, 648, 663, 313, and 659.

Task Force to discuss whether to add repeaters to the draft and whether there is any other reason to specify the AUI reference point. If not, proposed resolution is as follows:

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Editor's Note: Repeaters are not defined for 10BASE-T1S. The use of repeaters would enable reach extension, but can also bring a number of misconfiguration issues from the past, including that clause 9 has not been maintained. Task Force either needs to define the AUI and state repeaters are in scope, or explicitly state repeaters are not allowed for 10BASE-T1S PHYs.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

SORT ORDER: Clause, Subclause, page, line

CI 00

SC 0

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## Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 00 SC 0 P 1 L 34 # 447  
Booth, Brad Microsoft

Comment Type ER Comment Status D EZ

The PAR calls out "single balanced pair of conductors" but there are multiple instances where the term has been modified to be "single balanced twisted-pair". While twisted-pair cabling could be used, that is different than single balanced pair.

### SuggestedRemedy

Make sure the use of "twisted-pair" applies to a medium used to support the PHY; otherwise, the use of the term is in conflict with the PAR.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 447. Resolve with 425.

Replace, "This amendment adds 10 Mb/s Physical Layer (PHY) specifications and management parameters associated optional provision of power, on single balanced twisted-pair copper cabling."

with, "This amendment adds 10 Mb/s Physical Layer (PHY) specifications and management parameters and associated optional provision of power for operation over a single balanced pair of conductors."

CI 00 SC 0 P 23 L 10 # 606  
Bains, Amrik Cisco

Comment Type ER Comment Status D EZ

"Single Balanced Twisted-pair Cabling"

### SuggestedRemedy

"Single Balanced pair of Conductors"

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 586. Resolve with 586, 426, and 363.

Replace "over Single Balanced Twisted-pair Cabling and Associated Power Delivery"

with "and Associated Power Delivery over a Single Balanced Pair of Conductors" on page 23, line 10

CI 00 SC 0 P 34 L 1 # 44  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

Recent IEEE published amendments have not included any blank pages between sections and the IEEE 802.3 FrameMaker template was modified in this respect some time ago.

### SuggestedRemedy

Remove blank pages between sections.

Proposed Response Response Status W

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 00 SC 0 P 89 L 19 # 89  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

IEEE uses an en-dash as a minus sign rather than a hyphen.

## SuggestedRemedy

Scrub the draft for hyphens used as minus signs and replace them with en-dash (Ctrl-q Shift-p). This includes:  
Page 89, line 19 "BI\_DA-"  
Page 92, line 7  
Page 98, line 19  
Page 104, line 31  
Table 146-1 (many instances)  
Table 146-2 (7 instances)  
Table 146-3 (3 instances)  
Figure 146-8 (2 instances of "Rxn-5")  
Figure 146-9 (many instances of "Rxn-5")  
Page 113, line 26 "BI\_DA-"  
Page 114, line 14 "BI\_DA-"  
Page 115, line 9 "BI\_DA-"  
Page 121, line 31 and line 35  
Page 124, line 40, line 53  
Page 125, line 17  
Table 146-5 (4 instances)  
Page 133, line 7 "BI\_DA-", line 42 "BI\_DA-"  
Table 146-8 (2 instances of "BI\_DA-")  
Page 141, line 25, line 29  
Page 143, line 35, line 39  
Figure 147-9 (6 instances of "RXn-?")  
Page 159, line 38 "BI\_DA-"  
Page 161, line 10 "BI\_DA-"  
Page 162, line 29  
Page 165, line 29, line 31, line 32  
Page 168, line 24 "BI\_DA-"  
Table 147-4 (2 instances of "BI\_DA-")  
Figure 148-7 (2 instances of "txdn-a")  
Figure 146A-1 "RX-", "TX-"  
Figure 146A-2 "RX-", "TX-"  
Figure 146A-3 "RX-", "TX-"

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 00 SC 0 P 153 L 54 # 138  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

There are 4 instances in the draft where "i.e. " should be "i.e., " (comma missing)

## SuggestedRemedy

Change "i.e. " to "i.e., " in:  
147.3.2.5 (page 153, line 54)  
147.3.3.1 (page 154, line 22)  
147.3.3.5 (page 155, line 38)  
148.4.5.1 (page 180, line 40)

Proposed Response Response Status W

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 00 SC 9 P 0 L # 304  
KIM, YONG NIO

Comment Type ER Comment Status D Big Ticket Item Repeaters

CL9 (and CL13 w/ respective consistent texts) starts with a note "NOTE-This repeater is not recommended for new installations. Since September 2011, maintenance changes are no longer being considered for this clause." and overview starts with "This clause specifies a repeater for use with IEEE 802.3 10 Mb/s baseband networks. A repeater for any other IEEE 802.3 network type is beyond the scope of this clause.." 10BASE-T1S with and without PLCA, and 10BASE-T1L relationship with repeater should be stated here or in respective clauses.

## SuggestedRemedy

Note is a note, i.e. not a part of the standard but informative text. With no maintainance changes being considered for CL9 and CL13, approporate place to rnote that 10 Mbps system that uses 10BASE-T1x are not compatible w/ repeaters nor system considerations clauses are relevent may be respective clauses. But do somthing so that readers get clear direction and don't get confused.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 663. Consider with 632, 661, 648, 663, 313, 632, and 659.

Task Force to discuss whether to add repeaters to the draft and whether there is any other reason to specify the AUI reference point. If not, proposed resolution is as follows:

Insert new paragraph after 145, line 25, "Unlike 10 Mb/s Ethernet, e.g., Clauses 9 and 13, repeaters and the AUI interface point are not defined for 10BASE-T1S PHYs."

Insert new paragraph after 85, line 21, "Unlike 10 Mb/s Ethernet, e.g., Clauses 9 and 13, repeaters and the AUI interface point are not defined for 10BASE-T1L PHYs."

Editor's Note: Repeaters are not defined for 10BASE-T1S. The use of repeaters would enable reach extension, but can also bring a number of misconfiguration issues from the past, including that clause 9 has not been maintained. Task Force either needs to define the AUI and state repeaters are in scope, or explicitly state repeaters are not allowed for 10BASE-T1S PHYs.

CI 00 SC 13 P L 3 # 661  
Thompson, Geoff GraCaSI S.A.

Comment Type TR Comment Status D Big Ticket Item Repeaters

When we added this note we thought we were through with 10 Mb/s and half duplex forever. That appears not to be the case.

## SuggestedRemedy

Remove the note and update clause 13 appropriately to add 10BASE-T1S as a full fledged member of the 10 Mb/s CSMA/CD family.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 663. Consider with 632, 304, 648, 663, 313, and 659.

Task Force to discuss whether to add repeaters to the draft and whether there is any other reason to specify the AUI reference point. If not, proposed resolution is as follows:

Insert new paragraph after 145, line 25, "Unlike 10 Mb/s Ethernet, e.g., Clauses 9 and 13, repeaters and the AUI interface point are not defined for 10BASE-T1S PHYs."

Insert new paragraph after 85, line 21, "Unlike 10 Mb/s Ethernet, e.g., Clauses 9 and 13, repeaters and the AUI interface point are not defined for 10BASE-T1L PHYs."

Editor's Note: Repeaters are not defined for 10BASE-T1S. The use of repeaters would enable reach extension, but can also bring a number of misconfiguration issues from the past, including that clause 9 has not been maintained. Task Force either needs to define the AUI and state repeaters are in scope, or explicitly state repeaters are not allowed for 10BASE-T1S PHYs.

CI 00 SC A P 195 L 1 # 127  
Anslow, Pete Ciena

Comment Type ER Comment Status D EZ

Either add some bibliography entries or delete Annex A before going to Sponsor ballot.

## SuggestedRemedy

Either add some bibliography entries or delete Annex A before going to Sponsor ballot.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 6. Resolve with 6 and 590.

Delete Annex A.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

**CI 00 SC A P 195 L 1 # 6**  
Hajduczenia, Marek Charter  
**Comment Type E Comment Status D EZ**  
Annex A has no content  
**SuggestedRemedy**  
Remove Annex A unless explicitly needed  
**Proposed Response Response Status W**  
PROPOSED ACCEPT IN PRINCIPLE.  
Master comment 6. Resolve with 127 and 590.  
Delete Annex A.

**CI 00 SC A P 195 L 12 # 590**  
Healey, Adam Broadcom Inc.  
**Comment Type T Comment Status D EZ**  
Bibliography entry "[B22a]" is not cited in the document and it seems unlikely to have the title "Name-Title".  
**SuggestedRemedy**  
Remove amendments to Annex A or list any informative references cited in the draft.  
**Proposed Response Response Status W**  
PROPOSED ACCEPT IN PRINCIPLE.  
Master comment 6. Resolve with 6 and 127.  
Delete Annex A.

**CI 00 SC cover page P 1 L 34 # 425**  
Wienckowski, Natalie General Motors  
**Comment Type E Comment Status D EZ**  
still have twisted-pair  
**SuggestedRemedy**  
Change "single balanced twisted-pair copper cabling" to "single balanced pair of conductors".  
**Proposed Response Response Status W**  
PROPOSED ACCEPT IN PRINCIPLE.  
Master comment 447. Resolve with 447

Replace, "This amendment adds 10 Mb/s Physical Layer (PHY) specifications and management parameters associated optional provision of power, on single balanced twisted-pair copper cabling."

with, "This amendment adds 10 Mb/s Physical Layer (PHY) specifications and management parameters and associated optional provision of power for operation over a single balanced pair of conductors."

**CI 00 SC Keywords P 3 L 4 # 156**  
Graber, Steffen Pepperl+Fuchs GmbH  
**Comment Type E Comment Status D EZ**  
[EASY] 10BASE-T1; .; MASTER-SLAVE  
**SuggestedRemedy**  
10BASE-T1L; 10BASE-T1S; .; Master-Slave  
**Proposed Response Response Status W**  
PROPOSED ACCEPT IN PRINCIPLE.  
Replace "10BASE-T1" with "10BASE-T1L; 10BASE-T1S" on line 4.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

**CI 01**      **SC 1**      **P 23**      **L 13**      # **426**  
Wienckowski, Natalie      General Motors

**Comment Type**    **E**      **Comment Status**    **X**      **EZ**  
still have twisted-pair

**SuggestedRemedy**  
Change "single balanced twisted-pair cabling" to "single balanced pair of conductors".

**Proposed Response**      **Response Status**    **W**  
PROPOSED ACCEPT IN PRINCIPLE.

Master comment 586. Resolve with 586, 363, and 606.

Replace "over Single Balanced Twisted-pair Cabling and Associated Power Delivery"  
with "and Associated Power Delivery over a Single Balanced Pair of Conductors" on page  
23, line 10

**CI 01**      **SC 1**      **P 24**      **L 1**      # **450**  
Jones, Peter      Cisco

**Comment Type**    **TR**      **Comment Status**    **D**      **Editorial**  
Missing anything about PAUSE. At least needs update of Annex 31B. See 802.3bz as an  
example

**SuggestedRemedy**  
At least Annex 31B needs to be updated. See 802.3bz as an example

**Proposed Response**      **Response Status**    **W**  
PROPOSED REJECT.

Consider with comments 500 and 487.

PHYs at 100 Mb/s or less are already covered in Annex 31B:  
"At operating speeds of 100 Mb/s or less, a station that implements an exposed MII, shall  
not begin to transmit a (new) frame (assertion of TX\_EN at the MII, see 22.2.2.3) more  
than one pause\_quantum after  
the reception of a valid PAUSE frame (deassertion of RX\_DV at the MII, see 22.2.2.7) that  
contains a nonzero value of pause\_time. Stations that do not implement an exposed MII,  
shall measure this time at the  
MDI, with the timing specification increased to one pause\_quantum + 64 BT."

**CI 01**      **SC 1.3**      **P 24**      **L 3**      # **588**  
Healey, Adam      Broadcom Inc.

**Comment Type**    **T**      **Comment Status**    **D**      **EZ**  
This amendment appears to add no new normative references.

**SuggestedRemedy**  
Remove 1.3, or list the normative references added by this amendment.

**Proposed Response**      **Response Status**    **W**  
PROPOSED ACCEPT IN PRINCIPLE.

Master comment 588. Resolve with 22.

Chief Editor to submit Maintenance Request to add references to IEC 60068-2-1:2007, IEC  
60068-2-27:2008, IEC 60068-2-30:2005, IEC 60068-2-38:2009, IEC 60068-2-52:2017, IEC  
60068-2-64:2008, and IEC 60068-2-78:2012 to next edition of 802.3.

Add the following normative references starting at line 9:

IEC 60068-2-2:2007, Environmental testing - Part 2-2: Tests - Test B: Dry heat.

IEC 60068-2-6:2007, Environmental testing - Part 2-6: Tests - Test Fc: Vibration  
(sinusoidal).

IEC 60068-2-14:2009, Environmental testing - Part 2-14: Tests - Test N: Change of  
temperature.

IEC 60068-2-27:2008, Environmental testing - Part 2-27: Tests - Test Ea and guidance:  
Shock.

IEC 60068-2-31:2008, Environmental testing - Part 2-31: Tests - Test Ec: Rough handling  
shocks, primarily for equipment-type specimens.

IEC 60079-0: 2014, Explosive atmospheres. Part 1. Equipment protection by flameproof  
enclosures.

IEC 60079-11: 2011, Explosive Atmospheres - Part 11: Equipment protection by intrinsic  
safety.

IEC 60529:2013, Degrees of Protection Provided by Enclosures (IP Code).

IEC 61000-4-4:2012, Electromagnetic compatibility (EMC) - Part 4-4: Testing and  
measurement techniques - Electrical fast transient/burst immunity test.

IEC 61000-4-5: 2017, Electromagnetic compatibility (EMC) - Part 4-5: Testing and  
measurement techniques - Surge immunity test.

IEC 61000-4-6:2013, Electromagnetic compatibility (EMC) - Part 4-6: Testing and



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measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields.

IEC 61000-6-4:2018, Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments.

IEC 61010-1:2017, Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements.

IEC 61156-13:201x, Multicore and symmetrical pair/quad cables for digital communications - Part 13: Symmetrical single pair cables with transmission characteristics up to 20 MHz - Horizontal floor wiring - Sectional specification.

IEC 62368-1:2014, Audio/video, information and communication technology equipment - Part 1: Safety requirements.

ISO 4892:1982, Plastics - Methods of exposure to laboratory light.

Insert the following Editor's note after IEC 61156-13:201x, Editor's Note (to be removed prior to publication): IEC NP 61156-13 is still in development and the specification reference will likely change prior to publication. The references will be considered for inclusion in the draft based on Task Force review of relevancy prior to publication.

|              |               |             |            |             |
|--------------|---------------|-------------|------------|-------------|
| <b>CI 01</b> | <b>SC 1.3</b> | <b>P 24</b> | <b>L 5</b> | # <b>22</b> |
| Anslow, Pete |               | Ciena       |            |             |

|                     |           |                       |          |           |
|---------------------|-----------|-----------------------|----------|-----------|
| <b>Comment Type</b> | <b>TR</b> | <b>Comment Status</b> | <b>D</b> | <b>EZ</b> |
|---------------------|-----------|-----------------------|----------|-----------|

There are references in the draft that are not already in the base standard that should be added here. For example: IEC 62368-1 is referenced on page 133, line 52.

### *Suggested Remedy*

Scrub the draft for references that are not already in the base standard and add them to 1.3

|                          |                        |          |
|--------------------------|------------------------|----------|
| <b>Proposed Response</b> | <b>Response Status</b> | <b>W</b> |
|--------------------------|------------------------|----------|

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 588. Resolve with 588.

Chief Editor to submit Maintenance Request to add references to IEC 60068-2-1:2007, IEC 60068-2-27:2008, IEC 60068-2-30:2005, IEC 60068-2-38:2009, IEC 60068-2-52:2017, IEC 60068-2-64:2008, and IEC 60068-2-78:2012 to next edition of 802.3.

Add the following normative references starting at line 9:

IEC 60068-2-2:2007, Environmental testing - Part 2-2: Tests - Test B: Dry heat.

IEC 60068-2-6:2007, Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal).

IEC 60068-2-14:2009, Environmental testing - Part 2-14: Tests - Test N: Change of temperature.

IEC 60068-2-27:2008, Environmental testing - Part 2-27: Tests - Test Ea and guidance: Shock.

IEC 60068-2-31:2008, Environmental testing - Part 2-31: Tests - Test Ec: Rough handling shocks, primarily for equipment-type specimens.

IEC 60079-0: 2014, Explosive atmospheres. Part 1. Equipment protection by flameproof enclosures.

IEC 60079-11: 2011, Explosive Atmospheres - Part 11: Equipment protection by intrinsic safety.

IEC 60529:2013, Degrees of Protection Provided by Enclosures (IP Code).

IEC 61000-4-4:2012, Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test.

IEC 61000-4-5: 2017, Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

SORT ORDER: Clause, Subclause, page, line

**CI 01**

**SC 1.3**

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IEC 61000-4-6:2013, Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields.

IEC 61000-6-4:2018, Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments.

IEC 61010-1:2017, Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements.

IEC 61156-13:201x, Multicore and symmetrical pair/quad cables for digital communications - Part 13: Symmetrical single pair cables with transmission characteristics up to 20 MHz - Horizontal floor wiring - Sectional specification.

IEC 62368-1:2014, Audio/video, information and communication technology equipment - Part 1: Safety requirements.

ISO 4892:1982, Plastics - Methods of exposure to laboratory light.

Insert the following Editor's note after IEC 61156-13:201x, Editor's Note (to be removed prior to publication): IEC NP 61156-13 is still in development and the specification reference will likely change prior to publication. The references will be considered for inclusion in the draft based on Task Force review of relevancy prior to publication.

|              |        |       |      |      |
|--------------|--------|-------|------|------|
| CI 01        | SC 1.4 | P 24  | L 12 | # 23 |
| Anslow, Pete |        | Ciena |      |      |

|              |   |                |   |    |
|--------------|---|----------------|---|----|
| Comment Type | E | Comment Status | D | EZ |
|--------------|---|----------------|---|----|

The definition numbering has been changed in the revision project. Also, P802.3bt D3.7 is deleting the definition for IPort (1.4.294), which affects the numbering for PLCA

### SuggestedRemedy

Change the editing instruction on line 12 to:  
 "Insert the 10BASE-T1L and 10BASE-T1S definitions into the list after 1.4.50 10BASE-T as follows:"  
 re-number the definitions for 10BASE-T1L and 10BASE-T1S to be 1.4.50a and 1.4.50b, respectively.  
 Change the editing instruction on line 20 to:  
 "Insert the Physical Layer Collision Avoidance (PLCA) definition into the list after 1.4.389 physical header subframe (PHS) (re-numbered from 1.4.390 due to the deletion of 1.4.294 by IEEE Std 802.3bt-201x) as follows:"  
 re-number the definition for PLCA to be 1.4.389a

|                   |                 |   |
|-------------------|-----------------|---|
| Proposed Response | Response Status | W |
| PROPOSED ACCEPT.  |                 |   |

|           |        |      |      |       |
|-----------|--------|------|------|-------|
| CI 01     | SC 1.4 | P 24 | L 15 | # 265 |
| KIM, YONG |        | NIO  |      |       |

|              |    |                |   |           |
|--------------|----|----------------|---|-----------|
| Comment Type | TR | Comment Status | X | Editorial |
|--------------|----|----------------|---|-----------|

says ..up to at least 1000 m reach while the line 18 (T1S) does not say ..up to at least 25 m reach. Make them consistent.

### SuggestedRemedy

Most MAUs do not state reach (due to all other relevant media spec dependancies), but some do. Do what make sense and defend it.

|                   |                 |   |
|-------------------|-----------------|---|
| Proposed Response | Response Status | W |
|-------------------|-----------------|---|

PROPOSED REJECT.

Master comment 265. Resolve with 666.

Resolution to comment 368 adds reach information to the definition of 10BASE-T1S. If reach is not addressed then the definitions for 10BASE-T1S and 10BASE-T1L are identical and, therefore, not meaningful.

|                 |        |         |      |       |
|-----------------|--------|---------|------|-------|
| CI 01           | SC 1.4 | P 24    | L 16 | # 666 |
| Donahue, Curtis |        | UNH-IOL |      |       |

|              |   |                |   |           |
|--------------|---|----------------|---|-----------|
| Comment Type | E | Comment Status | D | Editorial |
|--------------|---|----------------|---|-----------|

"1.4.13b 10BASE-T1S" definition does not include any mention of reach, while "1.4.13a 10BASE-T1L" does. Suggest consistent language in both definitions. After reviewing other BASE-T definitions in 802.3-2015 it would appear that the common practice is to not include reach in the PHY type definition.

### SuggestedRemedy

Remove "up to at least 1000 m reach"

|                   |                 |   |
|-------------------|-----------------|---|
| Proposed Response | Response Status | W |
|-------------------|-----------------|---|

PROPOSED REJECT.

Master comment 265. Resolve with 265.

Resolution to comment 368 adds reach information to the definition of 10BASE-T1S. If reach is not addressed then the definitions for 10BASE-T1S and 10BASE-T1L are identical and, therefore, not meaningful.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 01 SC 1.4 P 24 L 18 # 607  
Bains, Amrik Cisco  
Comment Type ER Comment Status X Editorial  
"single balanced twisted-pair cabling"  
SuggestedRemedy  
"singlebalanced pair of conductors"  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Master comment 368. Resolve with 368, 701, 144, and 428.  
Change from, "over short reach single balanced twisted-pair cabling"  
to, "over a single balanced pair of conductors up to at least 15m reach"

CI 01 SC 1.4.13a P 24 L 15 # 700  
Kabra, Lokesh Synopsys Inc  
Comment Type E Comment Status X EZ  
Correct "balanced twisted-pair cabling up to at least 1 000 m reach."  
SuggestedRemedy  
balanced pair of conductors up to at least 1000 m reach  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Master comment 427. Resolve with 427.  
Change, "over single balanced twisted-pair cabling" to "over a single balanced pair of conductors"

CI 01 SC 1.4.13a P 24 L 15 # 427  
Wienckowski, Natalie General Motors  
Comment Type E Comment Status D EZ  
still have twisted-pair  
SuggestedRemedy  
Change "single balanced twisted-pair cabling" to "single balanced pair of conductors".  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Master comment 427. Resolve with 700.  
Change, "over single balanced twisted-pair cabling" to "over a single balanced pair of conductors"

CI 01 SC 1.4.13b P 24 L 18 # 144  
Lewis, Jon Dell EMC  
Comment Type ER Comment Status X Editorial  
Twisted-pair is still included  
SuggestedRemedy  
Change to: IEEE 802.3 Physical Layer specification for a 10 Mb/s Ethernet local area network over a short reach single balanced pair of conductors.  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Master comment 368. Resolve with 368, 701, 607, and 428.  
Change from, "over short reach single balanced twisted-pair cabling"  
to, "over a single balanced pair of conductors up to at least 15m reach"

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 01 SC 1.4.13b P 24 L 18 # 701  
Kabra, Lokesh Synopsys Inc  
Comment Type E Comment Status D Editorial  
Correct "balanced twisted-pair cabling"  
SuggestedRemedy  
balanced pair cabling,  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Master comment 368. Resolve with 368, 144, 607, and 428.  
Change from, "over short reach single balanced twisted-pair cabling"  
to, "over a single balanced pair of conductors up to at least 15m reach"

CI 01 SC 1.4.13b P 24 L 18 # 368  
Matheus, Kirsten BMW AG  
Comment Type ER Comment Status D Editorial  
"short reach" is not defined. It MIPI it is 30cm, in industrial it is 100m.  
SuggestedRemedy  
over single balanced twisted-pair cabling up to at least 15m reach.  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Master comment 368. Resolve with 701, 144, 607, and 428.  
Change from, "over short reach single balanced twisted-pair cabling"  
to, "over a single balanced pair of conductors up to at least 15m reach"

CI 01 SC 1.4.13b P 24 L 19 # 428  
Wienckowski, Natalie General Motors  
Comment Type E Comment Status D Editorial  
still have twisted-pair  
SuggestedRemedy  
Change "single balanced twisted-pair cabling" to "single balanced pair of conductors".  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Master comment 368. Resolve with 368, 701, 144, and 607.  
Change from, "over short reach single balanced twisted-pair cabling"  
to, "over a single balanced pair of conductors up to at least 15m reach"  
Resolve with 368, 701, 144, and 607.

CI 01 SC 1.4.390a P 24 L 23 # 596  
Lapak, Jeffrey UNH-IOL  
Comment Type E Comment Status D PLCA  
Definition of PLCA is unclear, suggest improving text to add clarity.  
SuggestedRemedy  
Change sentence from  
"A method for creating transmit opportunities at proper times in order to avoid physical collisions on the medium and improve performance of half-duplex 10BASE-T1S multidrop networks on mixing segments"  
to "A method for generating round-robin transmit opportunities for 10BASE-T1S multidrop PHYs operating on mixing segments in order to avoid physical collisions on the medium and improve performance"  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Replace, "A method for creating transmit opportunities at proper times in order to avoid physical collisions on the medium and improve performance of half-duplex 10BASE-T1S multidrop networks on mixing segments"  
with, "A method for generating transmit opportunities for 10BASE-T1S multidrop PHYs operating on mixing segments in order to avoid physical collisions on the medium and improve performance"

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

**CI 01**      **SC 1.5**      **P 24**      **L 32**      # **266**  
 KIM, YONG      NIO

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

At least I see FSM as a missing abbreviation (Fig 148-3). Please add and find other missing abbreviation and add them.

**SuggestedRemedy**  
 please fix them.

**Proposed Response**      **Response Status**    **W**  
 PROPOSED ACCEPT IN PRINCIPLE.

Add the following before PLCA abbreviation in clause 1.5:

FSM Finite State Machine

**CI 22**      **SC 22**      **P 25**      **L 1**      # **658**  
 Thompson, Geoff      GraCaSI S.A.

**Comment Type**    **TR**      **Comment Status**    **X**      **Big Ticket Item PLCA**

The proposed changes in this clause are at odds with the statement in the approved criteria on compatibility that states "As a PHY amendment to IEEE Std 802.3, the proposed project will use (the existing) MII"

**SuggestedRemedy**  
 Remove clause 148 and related text from the draft. If PLCA is desired as an addition to the standards family it should be placed appropriately at MAC Control or higher within the layer structure and have its own CFI.

**Proposed Response**      **Response Status**    **W**  
 Group to discuss.

**CI 22**      **SC 22**      **P 27**      **L 1**      # **608**  
 Bains, Amrik      Cisco

**Comment Type**    **ER**      **Comment Status**    **D**      **EZ**

22.3 section is wrong

**SuggestedRemedy**  
 22.8

**Proposed Response**      **Response Status**    **W**  
 PROPOSED ACCEPT IN PRINCIPLE.

Master comment 608. Resolve with 27.

Change "22.3" to "22.8" on line 1 and renumber all subclauses accordingly.

**CI 22**      **SC 22**      **P 28**      **L 4**      # **609**  
 Bains, Amrik      Cisco

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

Empty tables

**SuggestedRemedy**  
 Add information to tables

**Proposed Response**      **Response Status**    **W**  
 PROPOSED ACCEPT IN PRINCIPLE.

Master comment 334. Resolve with 334, 631, 452, 8, 30, and 299.

Implement resolution to comment #28 and then Chief Editor to work with Curtis Donahue to identify and enter PICS.

**CI 22**      **SC 22.2.2**      **P 25**      **L 37**      # **573**  
 Gauthier, Claude      NXP (claude.gauthier)

**Comment Type**    **TR**      **Comment Status**    **D**      **Big Ticket Item PLCA**

Add optional support for Priority indication when using the PLCA (multi-drop) option. The communication of Priority is all that is needed in the PHY. The Priority value of the current frames come from & goes to IEEE 802.1 where the policy decision of what frames are allowed to be released to the MAC for transmission after each BEACON is decided.

**SuggestedRemedy**  
 A presentation documenting the needs, mechanisms & costs will be available before and at the September meeting. Specific details on what codings to use & specific text changes will follow. In summary the needed changes are: 1) add a new PRIORITY encoding to Tables 22-1 & 22-2 (the MII interface - p25 & p26). A single encoding is all that is needed as the Priority value indication can follow the PRIORITY code. 2) Add PRIORITY 4B/5B encoding to Table 147-1 (p151) or some other mechanism. 3) Update figure 148-3 (p176) to add connections to a "Priority Client" as was done for Energy Efficient Ethernet's Fig 78-1 (p33 of part 6 of 802.3-2015). And 4) Update Fig 148-4 (p181) PLCA Control state diagram and associated text to add in the optional Priority communication phase at the start of each BEACON. The goal here is to reuse as much as possible to minimize gate costs. A register bit will be needed to enable this optional feature, a few PICS added, etc.

**Proposed Response**      **Response Status**    **W**  
 PROPOSED ACCEPT IN PRINCIPLE.

Group to hear presentation and discuss.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 22 SC 22.2.2.4 P 25 L 9 # 24  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

The editing instruction says "Insert new third and fourth paragraphs after existing second paragraph in 22.2.4 as follows:" but this is a change to the second paragraph.

## SuggestedRemedy

Change the editing instruction on line 10 to:  
"Change the second paragraph in 22.2.4 as follows:"

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 24. Resolve with 157 and 702.

Replace, "Insert new third and fourth paragraphs after the second paragraph in 22.2.4 as follows:"

with, "Change the second paragraph in 22.2.2.4 as follows:"

CI 22 SC 22.2.2.4 P 25 L 10 # 157  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ

[EASY] Insert new third and fourth paragraphs after existing second paragraph in 22.2.4 as follows:

## SuggestedRemedy

Modify the second paragraph in 22.2.2.4 as follows: (the text is already in the second paragraph, Clause is 22.2.2.4 instead of 22.2.4)

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 24. Resolve with 24 and 702.

Replace, "Insert new third and fourth paragraphs after the second paragraph in 22.2.4 as follows:"

with, "Change the second paragraph in 22.2.2.4 as follows:"

CI 22 SC 22.2.2.4 P 25 L 10 # 702  
Kabra, Lokesh Synopsys Inc

Comment Type E Comment Status D EZ

Change the instruction "Insert new third and fourth paragraphs after existing second paragraph in 22.2.4 as follows:"

## SuggestedRemedy

Change second paragraph in 22.2.2.4 as follows

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 24. Resolve with 24 and 157.

Replace, "Insert new third and fourth paragraphs after the second paragraph in 22.2.4 as follows:"

with, "Change the second paragraph in 22.2.2.4 as follows:"

CI 22 SC 22.2.2.4 P 25 L 13 # 292  
KIM, YONG NIO

Comment Type TR Comment Status D Editorial

The strike outs "Other. shall have no effect upon the PHY". This proposed change could potentially make existing systems non-compliant. So this potentially violates CRD (compatibility) and may cause other issues.

## SuggestedRemedy

please fix it.

Proposed Response Response Status W

PROPOSED REJECT.

This text has not been deleted - it has been moved to later in clause 22.2.2.4. See page 25, line 21 of draft 2.0.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 22 SC 22.2.2.4 P 25 L 15 # 158  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ

[EASY] Insert new third and fourth paragraphs after the second paragraph in 22.2.4 as follows:

## SuggestedRemedy

Insert a new third and fourth paragraph after the second paragraph in 22.2.2.4 as follows: (add "a", remove "s" from paragraphs and correct Clause reference)

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Replace "22.2.4" with "22.2.2.4" on line 9.

Editor's note: Change to line 16 addressed by comment 24.

CI 22 SC 22.2.2.4 P 25 L 18 # 451  
Jones, Peter Cisco

Comment Type E Comment Status X Big Ticket Item PLCA

Add PLCA definition or forward reference before first use. Same for BEACON, COMMIT, and any other new terms

## SuggestedRemedy

As per comment

Proposed Response Response Status W

PROPOSED REJECT.

Master comment 293. Resolve with 293.

Proposed resolution in Clause\_22\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes

CI 22 SC 22.2.2.4 P 25 L 18 # 293  
KIM, YONG NIO

Comment Type TR Comment Status D Big Ticket Item PLCA

Unlike LPI that is defined and referenced, PLCA, Beacon, Commit are not. And there is no reference and context wrt "capability is supported and enabled".

## SuggestedRemedy

please fix so that readers of (proposed and revised) CL22 could make sense of new proposed terms. Look how LPI did it. Fairly pervasive changes are required to convey the proposed change.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 293. Resolve with 451.

Proposed resolution in Clause\_22\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes

CI 22 SC 22.2.2.4 P 25 L 22 # 294  
KIM, YONG NIO

Comment Type TR Comment Status D Editorial

The sentence "Other.shall.. upon the PHY"

## SuggestedRemedy

Unneecessary text. But if you feel it is necessary, define what "shall have no effect" means, so that it could be added to the PICS and tested.

Proposed Response Response Status W

PROPOSED REJECT.

This is not new text. It is present in clause 22.2.2.4 of 802.3-2018. Removing this sentence may cause backward compatibility issues.

CI 22 SC 22.2.2.4 P 25 L 25 # 159  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ

[EASY] :

## SuggestedRemedy

Remove "." after ":" at the end of the line.

Proposed Response Response Status W

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 22 SC 22.2.2.5 P 25 L 44 # 25  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

The editing instruction says "Change the second paragraph in 22.2.5 as follows:" but this is 22.2.2.5.  
Similar issue with:  
page 25, line 43, "22.2.5" should be "22.2.2.5"  
page 26, line 3, "22.2.8" should be "22.2.2.8"  
page 26, line 30, "22.2.11" should be "22.2.2.11"  
page 26, line 40, "22.2.12" should be "22.2.2.12"

## SuggestedRemedy

In the editing instructions on:  
page 25, line 43, change "22.2.5" to "22.2.2.5"  
page 26, line 3, change "22.2.8" to "22.2.2.8"  
page 26, line 30, change "22.2.11" to "22.2.2.11"  
page 26, line 40, change "22.2.12" to "22.2.2.12"

Proposed Response Response Status W

PROPOSED ACCEPT.

Master comment 25. Resolve with 160, 161, 163, and 164.

CI 22 SC 22.2.2.5 P 25 L 44 # 160  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ

[EASY] 22.2.5

## SuggestedRemedy

22.2.2.5 (correct Clause reference)

Proposed Response Response Status W

PROPOSED ACCEPT.

Master comment 25. Consider with comment 25.

CI 22 SC 22.2.2.5 P 25 L 46 # 295  
KIM, YONG NIO

Comment Type TR Comment Status D PLCA

The proposed sentence "Assertion of the TX\_ER signal shall not affect." potentially make existing systems non-compliant. So this potentially violates CRD (compatibility) and may cause other issues.

## SuggestedRemedy

please fix it.

Proposed Response Response Status W

PROPOSED REJECT.

No change is being made to the original clause 22 "shall not affect" text. The modification is the addition of "(with the exception of 10BASE-T1S and 10BASE-T1L)". The idea, which has been discussed in the group, is that we don't want to preclude using TX\_ER with new 10BASE-T PHYs, so an exception has been added.

CI 22 SC 22.2.2.5 P 25 L 46 # 369  
Matheus, Kirsten BMW AG

Comment Type ER Comment Status D Editorial

OR clause at the end of the sentence makes it ambiguous. It should say what is meant in a clearer way (i.e. that when TX\_EN is deasserted, the assertion of TX\_ER does not affect the 10Mbps)

## SuggestedRemedy

When TX\_EC is deasserted, the assertion of TX\_ER shall not affect .. (if this is what is meant)

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Replace, "Assertion of the TX\_ER signal shall not affect the transmission of data when a PHY is operating at 10 Mb/s  
(with the exception of 10BASE-T1S and 10BASE-T1L), or when TX\_EN is deasserted."

with, "When TX\_EN is deasserted, the assertion of the TX\_ER signal shall not affect the transmission of data when a PHY is operating at 10 Mb/s  
(with the exception of 10BASE-T1S and 10BASE-T1L)." and show applicable strikeouts and underlines to note deletions and additions.



# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 22 SC 22.2.2.8 P 26 L 3 # 161  
 Graber, Steffen Pepperl+Fuchs GmbH  
 Comment Type E Comment Status D EZ  
 [EASY] 22.2.8  
 SuggestedRemedy  
 22.2.2.8 (correct Clause reference)  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.  
 Master comment 25. Consider with comment 25.

CI 22 SC 22.2.2.8 P 26 L 5 # 296  
 KIM, YONG NIO  
 Comment Type TR Comment Status D Big Ticket Item PLCA  
 Similar to my comment on 22.2.2.4. Unlike LPI that is defined and referenced, PLCA, Beacon, Commit are not.  
 SuggestedRemedy  
 please fix so that readers of (proposed and revised) CL22 could make sense of new proposed terms. Look how LPI did it. Fairly pervasive changes are required to convey the proposed change.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Proposed resolution in Clause\_22\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes.

CI 22 SC 22.2.2.8 P 26 L 10 # 26  
 Anslow, Pete Ciena  
 Comment Type E Comment Status D EZ  
 The editing instruction says "... Table 22-1 ..." but this is Table 22-2.  
 SuggestedRemedy  
 In the editing instruction, change "... Table 22-1 ..." to "... Table 22-2 .".  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Master comment 26. Resolve with 162.  
 Change "Table 22-1" to "Table 22-2" in editing instruction.

CI 22 SC 22.2.2.8 P 26 L 10 # 162  
 Graber, Steffen Pepperl+Fuchs GmbH  
 Comment Type E Comment Status D EZ  
 [EASY] Table 22-1  
 SuggestedRemedy  
 Table 22-2 (see table below)  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Master comment 26. Resolve with 26.  
 Change "Table 22-1" to "Table 22-2" in editing instruction.

CI 22 SC 22.2.2.11 P 26 L 30 # 163  
 Graber, Steffen Pepperl+Fuchs GmbH  
 Comment Type E Comment Status D EZ  
 [EASY] 22.2.11  
 SuggestedRemedy  
 22.2.2.11 (correct Clause reference)  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.  
 Master comment 25. Consider with comment 25.

CI 22 SC 22.2.2.11 P 26 L 33 # 297  
 KIM, YONG NIO  
 Comment Type TR Comment Status D PLCA  
 The proposed new paragraph has optional behavior that may or may not occur. This text does not belong in CL22.  
 SuggestedRemedy  
 Please remove the proposed text, or if required, put appropriate missing text WRT its relevancy (actions, signals, etc).  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Master comment 703. Resolve with 703 and 699.  
 Delete all of clause 22.2.2.11 (lines 28 - 36).

## Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

**Cl 22**    **SC 22.2.2.11**    **P 26**    **L 34**    # **699**  
 Xu, Dayin    Rockwell Automation

**Comment Type E**    **Comment Status D**    *Editorial*  
 delete "possibly"

**SuggestedRemedy**  
 change " . data reception is possibly about ." to " . data reception is about ."

**Proposed Response**    **Response Status W**  
 PROPOSED ACCEPT IN PRINCIPLE.

Master comment 703. Resolve with 703 and 297.

Delete all of clause 22.2.2.11 (lines 28 - 36).

**Cl 22**    **SC 22.2.2.11**    **P 26**    **L 34**    # **703**  
 Kabra, Lokesh    Synopsys Inc

**Comment Type E**    **Comment Status D**    *Editorial*  
 Change "signal while both TX\_EN and RX\_DV are deasserted to"

Reason: CRS is defined as "CRS shall be asserted by the PHY when either the transmit or receive medium is nonidle"; It is not defined with respect to TX\_EN or RX\_DV

**SuggestedRemedy**  
 signal while both transmit and receive medium are idle to

**Proposed Response**    **Response Status W**  
 PROPOSED ACCEPT IN PRINCIPLE.

Master comment 703. Resolve with 699 and 297.

Delete all of clause 22.2.2.11 (lines 28 - 36).

Editor's note: The intention is to use the combination of CRS = TRUE and COL = TRUE to signal an early receive indication. From this perspective we don't need to specify anything for CRS because it is already behaving as required, i.e. rising when either the transmit or receive media are non-idle.

**Cl 22**    **SC 22.2.2.12**    **P 26**    **L 39**    # **164**  
 Graber, Steffen    Pepperl+Fuchs GmbH

**Comment Type E**    **Comment Status D**    *EZ*  
 [EASY] 22.2.12

**SuggestedRemedy**  
 22.2.2.12 (correct Clause reference)

**Proposed Response**    **Response Status W**  
 PROPOSED ACCEPT.

Master comment 25. Consider with comment 25.

**Cl 22**    **SC 22.2.2.12**    **P 26**    **L 42**    # **704**  
 Kabra, Lokesh    Synopsys Inc

**Comment Type E**    **Comment Status D**    *Editorial*  
 Change "signal while both TX\_EN and RX\_DV are deasserted to"

Reason: COL is defined as "COL shall be asserted by the PHY upon detection of a collision on the medium"; It is not defined with respect to TX\_EN or RX\_DV

**SuggestedRemedy**  
 signal while both transmit and receive medium are idle to

**Proposed Response**    **Response Status W**  
 PROPOSED ACCEPT IN PRINCIPLE.

Replace, "When PLCA capability is supported and enabled, the PHY may optionally assert COL along with the CRS signal while both TX\_EN and RX\_DV are deasserted to"

with, "When PLCA capability is supported and enabled, the PHY may assert COL signal when both TX\_EN and RX\_DV are deasserted to"

Editor's Note: The intention is to use the combination of CRS = TRUE and COL = TRUE to signal an early receive indication. Specifying that COL shall not be rised if TX\_EN or RX\_DV are asserted is required to disambiguate the signaling of an early receive condition from a collision and a reception. The new proposed text defines an additional case to rise COL (which is the intended change), without affecting already existing behavior.

## Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

**Cl 22**      **SC 22.2.2.12**      **P 26**      **L 42**      # **298**  
 KIM, YONG      NIO

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

Similar to my comment on 22.2.11. The proposed new paragraph has optional behavior that may or may not occur. This text does not belong in CL22.

**SuggestedRemedy**  
 Please remove the proposed text, or if required, put appropriate missing text WRT its relevancy (actions, signals, etc).

**Proposed Response**      **Response Status**    **W**  
 PROPOSED REJECT.

Actions and signals are described in clause 148.4.4.1.3, which is referenced by 22.2.2.11 as appropriate.

**Cl 22**      **SC 22.3**      **P 27**      **L 1**      # **631**  
 Walker, Dylan      Cisco

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

The PICS in sub-clause 22.3 are empty.

**SuggestedRemedy**  
 Populate the PICS entries.

**Proposed Response**      **Response Status**    **W**  
 PROPOSED ACCEPT IN PRINCIPLE.

Master comment 334. Resolve with 334, 452, 8, 30, 609, and 299.

Implement resolution to comment #28 and then Chief Editor to work with Curtis Donahue to identify and enter PICS.

**Cl 22**      **SC 22.3**      **P 27**      **L 1**      # **452**  
 Jones, Peter      Cisco

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

22.3 PICS is a place holder

**SuggestedRemedy**  
 Complete this section as edit instructions from 22.8 (802.3-2015) considering text changes

**Proposed Response**      **Response Status**    **W**  
 PROPOSED ACCEPT IN PRINCIPLE.

Master comment 334. Resolve with 334, 631, 30, 609, and 299.

Implement resolution to comment #28 and then Chief Editor to work with Curtis Donahue to identify and enter PICS.

Editor's note: Clause numbering corrected by comment 608.

**Cl 22**      **SC 22.3**      **P 27**      **L 1**      # **334**  
 Yseboodt, Lennart      Signify

**Comment Type**    **ER**      **Comment Status**    **D**      **EZ**

Three empty PICS tables are shown in 22.3.3, 22.3.4.1, and 22.3.4.2.

**SuggestedRemedy**  
 Either add the required changed PICS elements or remove 22.3 if no changes are needed to the PICS.

**Proposed Response**      **Response Status**    **W**  
 PROPOSED ACCEPT IN PRINCIPLE.

Master comment 334. Resolve with 631, 452, 8, 30, 609, and 299.

Implement resolution to comment #28 and then Chief Editor to work with Curtis Donahue to identify and enter PICS.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 22 SC 22.3 P 27 L 1 # 27  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ  
The PICS for Clause 22 is in 22.8 not 22.3

## SuggestedRemedy

Force the numbering of the level 2 heading for the PICS to be 22.8 and this should renumber all of the following subclauses.

Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.

Master comment 608. Resolve with 27.

Change "22.3" to "22.8" on line 1 and renumber all subclauses accordingly

CI 22 SC 22.3.2.1 P 27 L 20 # 28  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ  
The table in 22.3.2.1 (should be 22.8.2.1) does not match the table in the base standard.  
The spelling of enquiries has changed to inquiries, the notes are different, etc.

## SuggestedRemedy

Replace the table with the version from the base standard.

Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.

Replace the existing first column headers and the notes with the first column headers and the notes from the base standard.

Editor's note: Clause numbering corrected by comment 608.

CI 22 SC 22.3.2.2 P 27 L 35 # 662  
Thompson, Geoff GraCaSI S.A.

Comment Type E Comment Status D EZ  
The text: "IEEE Std 802.3xx-201x, Clause..." is not up to date.

## SuggestedRemedy

Change to read: "IEEE Std 802.3cg-201x, Clause..." in this instance and all equivalents throughout the draft.

Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.

Master comment 29. Resolve with 662.

Change "IEEE Std 802.3xx-201x" to "IEEE Std 802.3cg-201x" in two places in clause 22.3.2.2.

CI 22 SC 22.3.2.2 P 27 L 35 # 29  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ  
In the table in 22.3.2.2 (should be 22.8.2.2) "IEEE Std 802.3xx-201x" should be "IEEE Std 802.3cg-201x" in two places.

## SuggestedRemedy

Change "IEEE Std 802.3xx-201x" to "IEEE Std 802.3cg-201x" in two places.

Proposed Response Response Status W  
PROPOSED ACCEPT.

Master comment 29. Resolve with 662.

CI 22 SC 22.3.3 P 28 L # 299  
KIM, YONG NIO

Comment Type TR Comment Status D EZ  
PICs tables are blank. Draft is not complete.

## SuggestedRemedy

Please complete the PICS table.

Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.

Master comment 334. Resolve with 334, 631, 452, 8, 30, and 609.

Implement resolution to comment #28 and then Chief Editor to work with Curtis Donahue to identify and enter PICS.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 22 SC 22.3.3 P 28 L 1 # 8  
Hajduczenia, Marek Charter

Comment Type ER Comment Status X EZ

Missing PICS content. Multiple SHALL statements were added to text in Clause 22, but PICS are missing.

## SuggestedRemedy

Per comment. Applicable to 22.3.3, 22.3.4.1, 22.3.4.2

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 334. Resolve with 334, 631, 452, 30, 609, and 299.

Implement resolution to comment #28 and then Chief Editor to work with Curtis Donahue to identify and enter PICS.

CI 22 SC 22.3.3 P 28 L 1 # 30  
Anslow, Pete Ciena

Comment Type ER Comment Status X EZ

With a blank placeholder for changes to the Clause 22 PICS, this draft is not ready to move to Sponsor ballot, hence this is a required comment.

## SuggestedRemedy

Either remove this PICS section from the draft or populate it with changes.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 334. Resolve with 334, 631, 452, 8, 609, and 299.

Implement resolution to comment #28 and then Chief Editor to work with Curtis Donahue to identify and enter PICS.

CI 30 SC 30.2.1 P 29 L 6 # 31  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

Containment is 30.2.3

## SuggestedRemedy

Change heading to "30.2.3 Containment"

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 30 SC 30.2.1 P 29 L 8 # 10  
Hajduczenia, Marek Charter

Comment Type ER Comment Status D EZ

Unclear set of changes to Figure 30-3

## SuggestedRemedy

Figure is being wholesale replaced; it would be great to have a hint what has been changed - either describe it in the editorial instruction / note, or alternatively draw a red box around what has been changed.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Change editing instruction to read: "Replace Figure 30-3 to add oPLCA as follows:"

CI 30 SC 30.2.1 P 30 L 8 # 433  
Wienckowski, Natalie General Motors

Comment Type T Comment Status D EZ

OAM 30.3.3 box was not removed from Figure 30-3

## SuggestedRemedy

Remove OAM box from Figure 30-3.

Proposed Response Response Status W

PROPOSED ACCEPT.

Editor's note: Jon Lewis to implement.

CI 30 SC 30.2.1 P 30 L 25 # 9  
Hajduczenia, Marek Charter

Comment Type E Comment Status D EZ

Extra symbol in oResourceTypeID block. Extra full stop in oEXTENSION block

## SuggestedRemedy

Remove garbage from referenced blocks

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 9. Resolve with 453 and 300.

Delete extra symbol in oResourceTypeID block. Delete extra full stop in oEXTENSION block.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 30 SC 30.2.1 P 30 L 25 # 301  
KIM, YONG NIO

Comment Type TR Comment Status D Management  
oPLCA 30.3.9 block is misplaced. It is mutually exclusive with oMACMergeEntity and oOMPEmulation and possibly others.

SuggestedRemedy  
Please fix it so that they are not mutually exclusive with compatible entities.

Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.

Move oPLCA under oPHYentity in Figure 30-3

CI 30 SC 30.2.1 P 30 L 25 # 453  
Jones, Peter Cisco

Comment Type E Comment Status D EZ  
What's the | underneath oResourceTypeID

SuggestedRemedy  
Remove

Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.

Master comment 9. Resolve with 9 and 300.

Delete extra symbol in oResourceTypeID block. Delete extra full stop in oEXTENSION block.

CI 30 SC 30.2.1 P 30 L 26 # 300  
KIM, YONG NIO

Comment Type ER Comment Status D EZ  
oResourceTypeID has erroneous character that resembles block graphic rectangle.

SuggestedRemedy  
Please delete the charactyer.

Proposed Response Response Status W  
PROPOSED ACCEPT.

Master comment 9. Resolve with 9 and 453.

Delete extra symbol in oResourceTypeID block. Delete extra full stop in oEXTENSION block.

CI 30 SC 30.2.1 P 30 L 51 # 454  
Jones, Peter Cisco

Comment Type T Comment Status D EZ  
why isn't PLCA green like the others

SuggestedRemedy  
fix if needed

Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.

Format text "30.3.9" under oPLCA on line 26 as an external reference (should be green).

CI 30 SC 30.2.2.1 P 30 L # 302  
KIM, YONG NIO

Comment Type TR Comment Status D Management  
oPLCA would need an entry in CL30.2.2.1. Otherwise the draft is incomplete.

SuggestedRemedy  
Please fix it.

Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.

Bring 30.2.2.1 into the draft  
Add the following:  
"Insert oPLCA after the description of oPD as follows:  
oPLCA If implemented, oPLCA is contained within oPHYEntity. The oPLCA managed object class provides the management controls necessary to allow an instance of a PLCA RS to be managed."

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

**CI 30**      **SC 30.2.5**      **P 30**      **L**      # **303**  
KIM, YONG      NIO

**Comment Type**    **ER**      **Comment Status**    **D**      **Management**

Table 30-1a would need an entry for oPLCA under DTE. Otherwise the draft is incomplete.

**SuggestedRemedy**  
Please fix it.

**Proposed Response**      **Response Status**    **W**

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 303. Resolve with 32.

Bring 30.2.5 into the draft,  
Insert Table 30-11 PLCA Capabilities (optional) after table 30-10.  
Add attributes from 30.3.9 as rows in table

**CI 30**      **SC 30.2.5**      **P 31**      **L 1**      # **32**  
Anslow, Pete      Ciena

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

The capabilities and packages for IEEE 802.3 Management are specified in Table 30-1a through Table 30-10. Table 30-1c contains rows for 30.3.8. As 30.3.9 PLCA managed object class is being added by this draft, Table 30-1a should be modified to include new rows for this object class.

**SuggestedRemedy**  
Add rows to Table 30-1c for 30.3.9 PLCA managed object class

**Proposed Response**      **Response Status**    **W**

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 303. Resolve with 303.

Bring 30.2.5 into the draft,  
Insert Table 30-11 PLCA Capabilities (optional) after table 30-10.  
Add attributes from 30.3.9 as rows in table

**CI 30**      **SC 30.3.2.1.2**      **P 31**      **L 9**      # **33**  
Anslow, Pete      Ciena

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

Editing instructions should be explicit as to where the editing should be performed.

**SuggestedRemedy**  
Change the editing instruction to:  
"Insert the following new entries in the APPROPRIATE SYNTAX section of 30.3.2.1.2 after the entry for "10 Mb/s":."

**Proposed Response**      **Response Status**    **W**

PROPOSED ACCEPT.

**CI 30**      **SC 30.3.2.1.3**      **P 31**      **L 13**      # **444**  
Wienckowski, Natalie      General Motors

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

aPhyTypeList section is missing

**SuggestedRemedy**  
Copy 30.2.2.1.2 in its entirety to 30.3.2.1.3 with the title aPhyTypeList. The rest of the copied content remains unchanged.

**Proposed Response**      **Response Status**    **W**

PROPOSED ACCEPT.

**CI 30**      **SC 30.3.3**      **P 31**      **L 14**      # **34**  
Anslow, Pete      Ciena

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

After 30.3.2.1.2, there is a heading for 30.3.3, but there are no changes in 30.3.3, so this heading is not needed.

**SuggestedRemedy**  
Remove the heading for 30.3.3

**Proposed Response**      **Response Status**    **W**

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 30 SC 30.3.9 P 31 L 15 # 35  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

The editing instruction lists several subclauses to be added, but misses some more out.

## SuggestedRemedy

Change the editing instruction to:  
"Insert 30.3.9 (and its subclauses) after 30.3.8 as follows:"

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 30 SC 30.3.9 P 31 L 19 # 36  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

The 802.3 web page:  
[http://www.ieee802.org/3/WG\\_tools/editorial/requirements/words.html#mib](http://www.ieee802.org/3/WG_tools/editorial/requirements/words.html#mib)  
says: "In IEEE Std 802.3 the spelling 'behaviour' is used throughout MIB clauses and their associated Annexes, and in any references to the behaviours defined there."

## SuggestedRemedy

Change "behaviors" to "behaviours" on line 20  
Change "behavior" to "behaviour" on lines 34 and 48

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 30 SC 30.3.9.1.1 P 31 L 28 # 591  
Healey, Adam Broadcom Inc.

Comment Type E Comment Status D EZ

The style of the appropriate syntax definition is inconsistent with the base standard.

## SuggestedRemedy

List the enumerations for aPLCAAdminState in the same style as e.g., 30.3.2.1.7  
aPhyAdminState. Make similar style changes in 30.3.9.2.2.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Apply the formatting for the enumerations in 30.3.2.1.7 of 802.3-2018 to the enumerations  
in 30.3.9.1.1 and 30.3.9.2.2.

CI 30 SC 30.3.9.1.1 P 31 L 32 # 37  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

In 30.3.9.1.1 "Clause 22" and "Clause 148" should be cross-references.  
In 30.3.9.2.1 "Clause 148" and "Clause 147" should be cross-references.  
In 30.3.9.2.2 "Clause 147" should be a cross-reference.

## SuggestedRemedy

In 30.3.9.1.1 make "Clause 22" and "Clause 148" cross-references.  
In 30.3.9.2.1 make "Clause 148" and "Clause 147" cross-references.  
In 30.3.9.2.2 make "Clause 147" a cross-reference.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 30 SC 30.3.9.1.1 P 31 L 33 # 593  
Healey, Adam Broadcom Inc.

Comment Type E Comment Status D EZ

"Clause 22" and "Clause 148" should be active cross-references.

## SuggestedRemedy

This issue seems to exist for most, if not all, definitions of PLCA attributes. Make  
references to clauses contained in the amendment into active cross-references. Highlight  
references to clauses outside of the amendment in the "external cross-reference" style.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 593. Resolve with 455.

Make "Clause 22" (line 32) and "Clause 148" (line 34) active cross-references.

Search for Clause 22 and Clause 148 and ensure that they are active cross-references.



# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 30 SC 30.3.9.1.1 P 31 L 33 # 305  
KIM, YONG NIO

Comment Type TR Comment Status D Management

States "..A disabled PLCA utilizes Clause 22 reconciliation sublayer without modification. An enabled PLCA modifies the behavior of the reconciliation sublayer per Clause 148" but Clause 22 is already proposed to be modified with PLCA states and signals. If the intention is to leave CL22 as-is, this draft should not make any modification to CL22 and make this statement. Or do what was inteneded. Current text does not work (not clear).

SuggestedRemedy

Please fix it.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Replace "..A disabled PLCA utilizes Clause 22 reconciliation sublayer without modification. An enabled PLCA modifies the behavior of the reconciliation sublayer per Clause 148" with "..When PLCA is enabled, the reconciliation sublayer is as defined by Clause 148, otherwise, Clause 148 behavior is not enabled."

(note this should not say "clause 22 behavior is performed" because it needs also to apply to non-clause 22 and non-clause 148 situations...)

CI 30 SC 30.3.9.1.1 P 31 L 34 # 165  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ

[EASY] .;

SuggestedRemedy

Remove ";" after "." at the end of the line.

Proposed Response Response Status W

PROPOSED REJECT.

"," at the end of the last enumeration is the correct formating style. See clause 30.3.8 of the 802.3-2018 document for examples.

CI 30 SC 30.3.9.2 P 31 L 37 # 455  
Jones, Peter Cisco

Comment Type TR Comment Status D EZ

All BEHAVIOUR DEFINED descriptions should have cross references added

SuggestedRemedy

Add them

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 593. Resolve with 593.

Make "Clause 22" (line 32) and "Clause 148" (line 34) active cross-references.

CI 30 SC 30.3.9.2.1 P 31 L 43 # 306  
KIM, YONG NIO

Comment Type TR Comment Status D Management

"Same as aPLCAAdminState" is not appropriate.

SuggestedRemedy

Please be verbose.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Change "Same as aPLCAAdminState" to "An ENUMERATED VALUE that has the following entries: disabled enabled"

CI 30 SC 30.3.9.2.1 P 31 L 47 # 307  
KIM, YONG NIO

Comment Type TR Comment Status D Management

"PLCA" does not seem to be the right in "Setting PLCA to the enabled state". Is PLCA a layer or managed objectd or something else?

SuggestedRemedy

Please use consistent object, or (re-)define PLCA to be consistent.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Change "Setting PLCA to the enabled state" to "Setting acPLCAAdminControl to the enabled state"

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 30 SC 30.3.9.2.1 P 31 L 49 # 355  
Yseboodt, Lennart Signify  
Comment Type E Comment Status D EZ  
Period missing after sentence on line 49.  
SuggestedRemedy  
Add period.  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Master comment 355. Resolve with 166.  
Replace ",'" with ",'"

CI 30 SC 30.3.9.2.1 P 31 L 49 # 595  
Healey, Adam Broadcom Inc.  
Comment Type T Comment Status D EZ  
It seems that ". Clause 147 PLCA ." should be ". Clause 148 PLCA ." since it is Clause 148 that defines PLCA.  
SuggestedRemedy  
Change the reference and make it into an active cross-reference.  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Master comment 595. Resolve with 308.  
Replace "Clause 147 PLCA" with "Clause 148 PLCA" and add a cross-reference to clause 148.

CI 30 SC 30.3.9.2.1 P 31 L 50 # 38  
Anslow, Pete Ciena  
Comment Type E Comment Status D PLCA  
The text: "in MDIO interface register ability bit 3.2292.13 and enable bit 3.2291.13;" is rather unhelpful regarding where to find these bits and is missing a "."  
SuggestedRemedy  
Change to: "in MDIO interface register PLCA ability bit 3.2292.13 (see 45.2.3.68f.1) and PLCA enable bit 3.2291.13 (see 45.2.3.68e.3).;"  
Note that the Clause 45 references have been corrected according to the latest base standard as per another comment.  
Proposed Response Response Status W  
PROPOSED ACCEPT.

CI 30 SC 30.3.9.2.1 P 31 L 50 # 594  
Healey, Adam Broadcom Inc.  
Comment Type E Comment Status X Management  
"BEHAVIOUR DEFINED AS:" highlights that this attribute maps to Clause 45 register bits. Active cross-references to 45.2.3.58f.1 and 45.2.3.58e.3 would be very useful (and similar cross-references are included for a number of management attributes). Mappings for other attributes such as aPLCAMaxID, aPLCALocalNodeID, and aPLCATransmitOpportunityTimer appear to go unmentioned. Conversely, there is no management attribute for PLCA reset (3.2291.12).  
SuggestedRemedy  
For each PLCA management attribute that maps to a clause 45 register/bit, state the mapping and provide an active cross-reference to the appropriate subclause in Clause 45. Consider adding an aPLCAReset attribute.  
Proposed Response Response Status O

CI 30 SC 30.3.9.2.1 P 31 L 50 # 166  
Graber, Steffen Pepperl+Fuchs GmbH  
Comment Type E Comment Status X EZ  
[EASY];  
SuggestedRemedy  
(replace ",'" by ".'" at the end of the sentence)  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Master comment 355. Resolve with 355.  
Replace ",'" with ",'"

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

**Cl 30** **SC 30.3.9.2.2** **P 31** **L 52** # **308**  
 KIM, YONG NIO

**Comment Type** **TR** **Comment Status** **X** **EZ**

"Sublayer provided the PHY implements and enables optional Clause 147 PLCA " is not right. PLCA is an optional component to RS as proposed, and is NOT a part of PHY

**SuggestedRemedy**  
 Please reference correct layers

**Proposed Response** **Response Status** **W**  
 PROPOSED ACCEPT IN PRINCIPLE.

Master comment 595. Resolve with 595.

Replace "Clause 147 PLCA" with "Clause 148 PLCA" and add a cross-reference to clause 148.

**Cl 30** **SC 30.3.9.2.2** **P 32** **L 5** # **39**  
 Anslow, Pete Ciena

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

"acPLCAReset" should not be allowed to split across two lines.

**SuggestedRemedy**  
 Place the cursor in the word, then Esc n s (separate key presses)

**Proposed Response** **Response Status** **W**  
 PROPOSED ACCEPT IN PRINCIPLE.

Remove hyphenation from "acPLCAReset"

**Cl 30** **SC 30.3.9.2.2** **P 32** **L 8** # **40**  
 Anslow, Pete Ciena

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

The text: "in MDIO interface register ability bit 3.2292.13 and enable bit 3.2291.13." is rather unhelpful regarding where to find these bits.

**SuggestedRemedy**  
 Change to: "in MDIO interface register PLCA ability bit 3.2292.13 (see 45.2.3.68f.1) and PLCA enable bit 3.2291.13 (see 45.2.3.68e.3)."  
 Note that the Clause 45 references have been corrected according to the latest base standard as per another comment.

**Proposed Response** **Response Status** **W**  
 PROPOSED ACCEPT.

**Cl 30** **SC 30.3.9.2.2** **P 32** **L 9** # **167**  
 Graber, Steffen Pepperl+Fuchs GmbH

**Comment Type** **E** **Comment Status** **X** **EZ**

[EASY] .;

**SuggestedRemedy**  
 Remove ";" after "." at the end of the line.

**Proposed Response** **Response Status** **W**  
 PROPOSED REJECT.

"," at the end of the last enumeration is the correct formatting style. See clause 30.3.8 of the 802.3-2018 document for examples.

**Cl 30** **SC 30.3.9.2.3** **P 32** **L 11** # **309**  
 KIM, YONG NIO

**Comment Type** **TR** **Comment Status** **X** **Big Ticket Item PLCA**

aPLCAMaxID -- does not have a range, so am I to read this as Max ID = <integer max value>? Is this max # of nodes consistent w/ PLCA clause, and is it get-set or just get? And why would this object be needed for each DTE?

**SuggestedRemedy**  
 Please clarify (range) and justify (why needed for each DTE)

**Proposed Response** **Response Status** **O**

**Cl 30** **SC 30.3.9.2.3** **P 32** **L 11** # **528**  
 Beruto, Piergiorgio Canova Tech Srl

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

[MAX\_ID] PLCAMaxID definition is not consistent to its usage in Clause 148

**SuggestedRemedy**  
 Replace "The value of aPLCAMaxID is assigned to define the maximum number of nodes that can be handled on the PLCA network" with "The value of aPLCAMaxID is assigned to define the highest node ID getting a transmit opportunity before a new BEACON is generated"

**Proposed Response** **Response Status** **W**  
 PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 30 SC 30.3.9.2.3 P 32 L 19 # 456  
Jones, Peter Cisco

Comment Type ER Comment Status D EZ

Replace "The value of aPLCAMaxID" with "This value"

SuggestedRemedy

Make suggested change

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Replace, "The value of aPLCAMaxID"

with, "The value"

CI 30 SC 30.3.9.2.4 P 32 L 22 # 310  
KIM, YONG NIO

Comment Type E Comment Status D Editorial

Local Node ID -- is there any other kind of node apart from the "local"? If not, how about just NodeID

SuggestedRemedy

Please do so.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

No change to draft needed.

Editor's note: There are other types of ID. Hence "Local Node" modifies ID to distinguish it from cur\_ID which is a counter in clause 148 state diagrams.

CI 30 SC 30.3.9.2.4 P 32 L 22 # 311  
KIM, YONG NIO

Comment Type TR Comment Status D Management

There is no description on how NodeID=0 is assigned (or elected). How each NodeID is assured to be unique. How duplicate NodeID (error condition) is handled.

SuggestedRemedy

Please add details or references to these behaviors.

Proposed Response Response Status W

PROPOSED REJECT.

Description or requirements of assignment of parameters in the management entity is beyond the scope of this standard.

CI 30 SC 30.3.9.2.4 P 32 L 30 # 457  
Jones, Peter Cisco

Comment Type TR Comment Status D EZ

Replace "The value of aPLCALocalNodeID" with "This value"

SuggestedRemedy

Make suggested change

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

PROPOSED ACCEPT IN PRINCIPLE.

Replace, "The value of aPLCALocalNodeID"

with, "The value"

CI 30 SC 30.3.9.2.5 P 32 L 41 # 458  
Jones, Peter Cisco

Comment Type TR Comment Status D EZ

Replace "The value of PLCATransmitOpportunityTimer" with "This value"

SuggestedRemedy

Make suggested change

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Replace "The value of PLCATransmitOpportunityTimer"

with "The value"

## Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 30 SC 30.3.9.2.5 P 32 L 41 # 312  
KIM, YONG NIO

Comment Type TR Comment Status D Management

Is aPLCATransmitOppotunityTimer object get or get-set? What are the allowed ranges of values, and what is the unit for these values. This object defintion is incomplete.

### SuggestedRemedy

Please add details and add appropriate references.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 312. Resolve with 370 and 377.

Insert "aPLCATransmitOppportunity maps to the duration of the timer TO\_TIMER. The value of aPLCATransmitOppportunity is an integer number between 1 and 65535, expressed as a the duration of TO\_TIMER in bit times. See 148.4.5.4 for further information." after "transmit opportunities." on page 32, line 42.

CI 30 SC 30.3.9.2.5 P 32 L 41 # 370  
Matheus, Kirsten BMW AG

Comment Type E Comment Status D Management

What exactly are PLCA transmit opportunities? It defines the minimum time between the transmissions of two different units. Right?

### SuggestedRemedy

defines the minimum time that needs to pass between two transmissions on the link.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 312. Resolve with 370 and 377.

Insert "aPLCATransmitOppportunity maps to the duration of the timer TO\_TIMER. The value of aPLCATransmitOppportunity is an integer number between 1 and 65535, expressed as a the duration of TO\_TIMER in bit times. See 148.4.5.4 for further information." after "transmit opportunities." on page 32, line 42.

CI 30 SC 30.5.1.1.2 P 33 L 9 # 41  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

Editing instructions should be explicit as to where the editing should be performed. Also, after 100BASE-T does not seem like an appropriate place to put 10 Mb/s entries.

### SuggestedRemedy

Change the editing instruction to:

"Insert the following new entries in the APPROPRIATE SYNTAX section of 30.5.1.1.2 after the entry for "10BASE-T":"

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 41. Resolve with 445.

Replace, "Insert the following new entries in APPROPRIATE SYNTAX after the entry for "100BASE-T":"

with, "Insert the following new entries in the APPROPRIATE SYNTAX section of 30.5.1.1.2 after the entry for "10BASE-TS":"

CI 30 SC 30.5.1.1.2 P 33 L 9 # 445  
Wienckowski, Natalie General Motors

Comment Type E Comment Status D EZ

Editor instruction is wrong. The 10BASE PHYs should all be together in the list.

### SuggestedRemedy

Change the editor's instruction to be: Insert the following new entries in APPROPRIATE SYNTAX after the entry for "10PASS-TS".

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 41. Resolve with 41.

Replace, "Insert the following new entries in APPROPRIATE SYNTAX after the entry for "100BASE-T":"

with, "Insert the following new entries in the APPROPRIATE SYNTAX section of 30.5.1.1.2 after the entry for "10BASE-TS":"

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 30 SC 30.5.1.1.2 P 33 L 12 # 145  
Lewis, Jon Dell EMC

Comment Type E Comment Status D Editorial  
remove the word "cable"

## SuggestedRemedy

Change to: Single balanced pair copper PHY as specified in Clause 147

Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.

Replace, "Single balanced pair copper cable PHY"

with, "Single balanced pair PHY"

in two locations (lines 11 and 12).

CI 30 SC 30.5.1.1.4 P 33 L 15 # 42  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ  
Editing instructions should be explicit as to where the editing should be performed.

## SuggestedRemedy

Change the editing instruction to:  
"Change the fourth sentence of the third paragraph of the BEHAVIOUR DEFINED AS section of 30.5.1.1.4 as follows:"

Proposed Response Response Status W  
PROPOSED ACCEPT.

CI 30 SC 30.5.1.1.4 P 33 L 47 # 313  
KIM, YONG NIO

Comment Type TR Comment Status D Big Ticket Item AUI  
If 10BASE-T1S PHY supports CSMA/CD, then it should operate similarly to 10BASE5, etc WRT to MAU not available/available as stated in second paragraph.

## SuggestedRemedy

Please add appropriate references of media loopback. Current references are only to AUI

Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.

Master comment 663. Consider with 632, 304, 661, 648, 663, and 659.

Task Force to discuss whether to add repeaters to the draft and whether there is any other reason to specify the AUI reference point. If not, proposed resolution is as follows:

Insert new paragraph after 145, line 25, "Unlike 10 Mb/s Ethernet, e.g., Clauses 9 and 13, repeaters and the AUI interface point are not defined for 10BASE-T1S PHYs."

Insert new paragraph after 85, line 21, "Unlike 10 Mb/s Ethernet, e.g., Clauses 9 and 13, repeaters and the AUI interface point are not defined for 10BASE-T1L PHYs."

Editor's Note: Repeaters are not defined for 10BASE-T1S. The use of repeaters would enable reach extension, but can also bring a number of misconfiguration issues from the past, including that clause 9 has not been maintained. Task Force either needs to define the AUI and state repeaters are in scope, or explicitly state repeaters are not allowed for 10BASE-T1S PHYs.

CI 30 SC 30.5.1.1.6 P 33 L # 314  
KIM, YONG NIO

Comment Type TR Comment Status D Jabber  
Jabber function that protects mixing segment is missing.

## SuggestedRemedy

Please add in CL147 and also here for its mgmt.

Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.

Refer to presentation from Piergiorgio Beruto.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 30 SC 30.6.1.1.5 P 33 L 28 # 43  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

Editing instructions should be explicit as to where the editing should be performed.

## SuggestedRemedy

Change the editing instruction to:  
"Insert the following new entries in the APPROPRIATE SYNTAX section of 30.6.1.1.5 after the entry for "10BASE-T":"

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 45 SC 45 P 35 L 1 # 459  
Jones, Peter Cisco

Comment Type TR Comment Status D Registers

Lots of missing forward references, e.g., 45.2.1.174a.5 Low-power (1.2294.11)

## SuggestedRemedy

Add references into new clauses

Proposed Response Response Status W

PROPOSED REJECT.

Commenter provides insufficient remedy. Text of referenced 45.2.1.174a.5 is nearly identical to text describing management bits of other BASE-T1 PHYs, which do not have forward links to the PHY clauses.

CI 45 SC 45.2.1 P 35 L 11 # 472  
Jones, Peter Cisco

Comment Type ER Comment Status D EZ

Why is there a gap between PMA status and test mode control

## SuggestedRemedy

Fix if needed

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 472. Consider with 471.

Move three addresses, starting with 10BASE-T1L test mode control, to 1.2296, 1.2297, and 1.2298. Change the reserved address from "1.2301 through 1.2302" to "1.2299 through 1.2302".

CI 45 SC 45.2.1 P 35 L 26 # 471  
Jones, Peter Cisco

Comment Type ER Comment Status D EZ

Table 45-3 - different style than 1.2296 and 1.2296. Be consistent

## SuggestedRemedy

Fix style

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 472. Consider with 472.

Move three addresses, starting with 10BASE-T1L test mode control, to 1.2296, 1.2297, and 1.2298. Change the reserved address from "1.2301 through 1.2302" to "1.2299 through 1.2302".

CI 45 SC 45.2.1.17 P 37 L 27 # 610  
Bains, Amrik Cisco

Comment Type TR Comment Status D Registers

Low-power - not clear what this means, requires more details as to what is active on the PHY. It seems only management interface is active while tx/rx PHY sections are powered down

## SuggestedRemedy

Change title to "Hibernation Mode". In this mode only management interface is active

Proposed Response Response Status W

PROPOSED REJECT.

Master comment 610. Resolve with 460 and 461.

This does not relate to low power idle. "Low power" is the same term used in nearly all 802.3 PHYs for this capability with this same description. It is found in 1.1.1 (45.2.1.5) as well as in the BASE-T1 registers at 45.2.1.187.3, 45.2.1.188.4, and also in 3.0.11 (45.2.3.1.3) and numerous other places. Changing the name for the same function with the same description would add confusion.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 45 SC 45.2.1.173 P 35 L 51 # 45  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

The heading for Register 1.2100 is now 45.2.1.185 in IEEE 802.3-2018 and the corresponding table is Table 45-149

## SuggestedRemedy

Change the heading for Register 1.2100 to 45.2.1.185 and change Table 45-141 to Table 45-149 (and also the reference to it in the editing instruction).

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 424. Resolve with 424.

Replace, "45.2.1.173 BASE-T1" with "45.2.1.185 BASE-T1" on line 51.

Replace, "Change the row for 1.2100.3:0 in Table 45-141" with "Change the row for 1.2100.3:0 in Table 45-149" on line 53.

Replace, "Table 45-141-BASE-T1" with "Table 45-149-BASE-T1" on page 36, line 1.

CI 45 SC 45.2.1.173 P 35 L 52 # 424  
Wienckowski, Natalie General Motors

Comment Type T Comment Status D EZ

This is not the correct section based on P8023\_D3p2.

## SuggestedRemedy

Change to Section 45.2.1.185 and change Table 45-141 to 45-149.  
Also change 45.2.1.174x and all subsections to 45.2.1.186x and change Tables 45-142x to Tablex 45-150x.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 424. Resolve with 45 and 47.

Replace, "45.2.1.173 BASE-T1" with "45.2.1.185 BASE-T1" on line 51.

Replace, "Change the row for 1.2100.3:0 in Table 45-141" with "Change the row for 1.2100.3:0 in Table 45-149" on line 53.

Replace, "Table 45-141-BASE-T1" with "Table 45-149-BASE-T1" on page 36, line 1.

Change the editing instruction on page 36, line 15 to "Insert 45.2.1.186a through 45.2.1.186f after 45.2.1.186 as follows:"

Change the inserted clauses from 45.2.1.174a through 45.2.1.174f to 45.2.1.186a through 45.2.1.186f

Change the inserted tables from Table 45-142a through Table 45-142f to Table 45-150a through Table 45-150f



# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 45 SC 45.2.1.174a P 36 L 15 # 47  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

The numbering in the editing instruction: "Insert 45.2.1.174a through 45.2.1.174h after 45.2.1.174 as follows:" does not match the numbering in the base standard and includes more subclauses than are in the current draft.  
Also, the inserted Table numbers are not correct.

## SuggestedRemedy

Change the editing instruction to: "Insert 45.2.1.186a through 45.2.1.186f after 45.2.1.186 as follows:"  
Change the inserted tables from Table 45-142a through Table 45-142f to be Table 45-150a through Table 45-150f

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 424. Resolve with 424.

Change the editing instruction on page 36, line 15 to "Insert 45.2.1.186a through 45.2.1.186f after 45.2.1.186 as follows:"

Change the inserted clauses from 45.2.1.174a through 45.2.1.174f to 45.2.1.186a through 45.2.1.186f

Change the inserted tables from Table 45-142a through Table 45-142f to Table 45-150a through Table 45-150f

CI 45 SC 45.2.1.174a P 36 L 29 # 705  
Kabra, Lokesh Synopsys Inc

Comment Type T Comment Status D Registers

Bit 1.2294.13 "Loopback" is a copy of Bit 1.0.0 (currently reserved). Suggest to map this one to 1.2294.0 to keep the bit position same in both registers. This make it similar to position of Reset and Low Power bits that have same offset as in register 1.0

## SuggestedRemedy

Change mapping to bit "1.2294.0" globally (multiple places)

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Change 1.2294.13 to Reserved Value always zero, RO

Insert new bottom row of Table 45-142a for 1.2294.0 Loopback | 1 = Enable loopback mode 0= Disable loopback mode | R/W

Adjust reserved row (to 1.2294.9:1)

Move 45.2.1.174a.3 Loopback (1.2294.13) subclause after 45.2.1.174a.6 EEE functionality and make it 1.2294.0, and change references to 1.2294.13 to be 1.2294.0 (3 instances) in that paragraph.

Change MM164 and MM165 PICS (P51) to 1.2294.0

Change reference to 1.2294.13 in 146.5.7 PMA Local Loopback from 1.2294.13 to 1.2294.0 (add cross ref),

Change reference to 1.2294.13 in Table 146-4 to 1.2294.0

Change reference to 1.2294.13 in CI 146 PICS PMAE23 (P142)

CI 45 SC 45.2.1.174a P 36 L 34 # 316  
KIM, YONG NIO

Comment Type ER Comment Status D Registers

Low power ability is missing perhaps, before it could be controlled?

## SuggestedRemedy

Is low-power mode a mandatory requirement? If so, provide a reference.

Proposed Response Response Status W

PROPOSED REJECT.

Low power ability corresponding to the control bit at 45.2.1.174a is found at bit 1.2295.8 in Table 45-142b.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 45 SC 45.2.1.174a P 36 L 36 # 317  
KIM, YONG NIO

Comment Type TR Comment Status D EEE

EEE capability is optional. Clarify what happens if this bit = 1 when the corresponding ability is 0

## SuggestedRemedy

Clarify.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 317. Consider with 719.

Change bit description from "EEE functionality" to "EEE Advertisement" and description in 45.2.1.174a.6 to "When set as a one, this bit indicates to the link partner that the 10BASE-T1L PHY is advertising EEE capability. When set as a zero, this bit indicates to the link partner that the 10BASE-T1L PHY is not advertising EEE capability. This bit shall be set to zero if the 10BASE-T1L PHY does not support EEE."

CI 45 SC 45.2.1.174a.1 P 36 L 44 # 335  
Yseboodt, Lennart Signify

Comment Type ER Comment Status D EZ

"Resetting the 10BASE-T1L PMA/PMD is accomplished by setting bit 1.2294.15 to a one."

The draft mixes use of "set to one" and "set to a one", the same with zero.

Looking at the rest of 802.3, (which of course is inconsistent, what did you expect), use of "set to one" and "set to zero" is much more prevalent than "set to a one".

## SuggestedRemedy

Double-check with Pete Anslow.

Replace throughout the draft:

"to a one" ==> "to one" [35 occurrences]

"to a zero" ==> "to zero" [11 occurrences]

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Globally search for "to a one" and replace with "to one". Globally search for "to a zero" and replace with "to zero".

CI 45 SC 45.2.1.174a.3 P 37 L 14 # 634  
Thompson, Geoff GraCaSI S.A.

Comment Type ER Comment Status D Registers

Clarify that the loopback is a near end loopback and is not dependent on having media connected.

## SuggestedRemedy

NEW TEXT: The 10BASE-T1L PMA shall be placed in near-end loopback mode of operation when bit 1.2294.13 is set to a one. When bit 1.2294.13 is set to a one, the 10BASE-T1L PMA shall accept data on the transmit path and return it on the receive path. The default value of bit 1.2294.13 is zero. Bit 1.2294.13 is a copy of 1.0.0 and setting or clearing either bit shall set or clear the other bit. Setting either bit shall enable loopback. Loopback operation shall be independent of media connection or condition.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Replace the contents of clause 45.2.1.174a.3 Loopback (1.2294.13) with, "The 10BASE-T1L PMA shall be placed in near-end loopback mode of operation when bit 1.2294.13 is set to a one. When bit 1.2294.13 is set to a one, the 10BASE-T1L PMA shall accept data on the transmit path and return it on the receive path. The default value of bit 1.2294.13 is zero. Bit 1.2294.13 is a copy of 1.0.0 and setting or clearing either bit shall set or clear the other bit. Setting either bit shall enable loopback. Loopback operation shall be independent of media connection or condition."

Editor's note: AIP is to clarify that this is a replace action. No change made to commenter's text.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 45 SC 45.2.1.174a.5 P 37 L 27 # 460  
Jones, Peter Cisco

Comment Type TR Comment Status D Registers

It's not clear to me how this relates to LPI or low power idle mode (146.2.10.3 Effect of receipt ). Either use the same terms, or explain how they are different, and use clearly different terms. If the are the same, why do we need this as well as EEE. I can't find low-power mode in clause 146.The NOTE about interruption doesn't match the requirements for EEE.

## SuggestedRemedy

Clairfy "Low-power" vs "low-power-idle".

Proposed Response Response Status W

PROPOSED REJECT.

Master comment 610. Resolve with 610 and 461.

This does not relate to low power idle. "Low power" is the same term used in nearly all 802.3 PHYs for this capability with this same description. It is found in 1.1.1 (45.2.1.5) as well as in the BASE-T1 registers at 45.2.1.187.3, 45.2.1.188.4, and also in 3.0.11 (45.2.3.1.3) and numerous other places. Changing the name for the same function with the same description would add confusion.

CI 45 SC 45.2.1.174a.5 P 37 L 30 # 269  
KIM, YONG NIO

Comment Type TR Comment Status D Registers

"This action maury also initiate. in the same package" is not appropriate in so many levels.  
Delete

## SuggestedRemedy

Delete the sentence and make changes to any related text elsewhere.

Proposed Response Response Status W

PROPOSED REJECT.

This exact same language is found 6 different times in connection with the low power mode of other 802.3 phys in IEEE Std 802.3-2018.

CI 45 SC 45.2.1.174a.5 P 37 L 32 # 270  
KIM, YONG NIO

Comment Type TR Comment Status D Registers

"The behavior of the. shjould not be relied upon" is not appropriate. Having a control defined for a purpose , low power mode, and having no specification tells me that this is purely vendor implementation paramter.

## SuggestedRemedy

Delete the sentence and make changes to any related text elsewhere.

Proposed Response Response Status W

PROPOSED REJECT.

This exact same language is found 6 different times in connection with the low power mode of other 802.3 phys in IEEE Std 802.3-2018.

CI 45 SC 45.2.1.174a.5 P 37 L 36 # 168  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ

[EASY] . 10BASE-T1L PMD ...

## SuggestedRemedy

Adapt the Font Size of "10BASE-T1L PMD" to the rest of the text in the note.

Proposed Response Response Status W

PROPOSED ACCEPT.

## Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 45 SC 45.2.1.174a.6 P 37 L 42 # 719  
McClellan, Brett Marvell

Comment Type TR Comment Status D EEE

EEE is currently defined as a configured mode, however EEE only works when negotiated with a link partner.

### SuggestedRemedy

Delete this register bit definition and replace with a EEE advertisement bit in MMD 7. See my other comment.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 317. Consider with 317.

Change bit description from "EEE functionality" to "EEE Advertisement" and description in 45.2.1.174a.6 to "When set as a one, this bit indicates to the link partner that the 10BASE-T1L PHY is advertising EEE capability. When set as a zero, this bit indicates to the link partner that the 10BASE-T1L PHY is not advertising EEE capability. This bit shall be set to zero if the 10BASE-T1L PHY does not support EEE."

CI 45 SC 45.2.1.174b P 38 L 15 # 706  
Kabra, Lokesh Synopsys Inc

Comment Type T Comment Status D Registers

"Low Power " control bit is Bit 1.2294.11. Suggest to map "Low Power Ability" to 1.2295.11 (currently reserved) to keep the bit position same in both registers. This helps in avoiding bit shifting when software wants to mask setting of Low-Power with "Low-Power ability" read from this register

### SuggestedRemedy

Change mapping to bit "1.2295.11" globally (multiple places)

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Copy the content for row "1.2295.8" into the Reserved row "1.2295.11" and delete row "1.2295.8".

Replace the Reserved row "1.2295.7:3" with "1.2295.8:3".

Change "45.2.1.174b.5 Low-power ability (1.2295.8)" to 45.2.1.174b.5 Low-power ability (1.2295.11), change 2 occurrences of "(1.2295.8)" in the clause to "(1.2295.11)" and move to after 45.2.1.174b.2 2.4 Vpp operating mode ability (1.2295.12).

CI 45 SC 45.2.1.174c P 40 L 3 # 635  
Thompson, Geoff GraCaSI S.A.

Comment Type TR Comment Status D Registers

THE TEXT: "The 3 default values for each bit should be chosen so that the initial state of the device upon power up or reset is a 4 normal operational state without management intervention." is an editorial note requiring further definition of the draft. It indicates that the draft was not complete and not qualified for WG ballot.

### SuggestedRemedy

Complete definition of these default values as well as other incomplete items. This constitutes a lack of completeness of the draft, restart the initial WG Ballot.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

No change to draft required.

Table 45-142c clearly shows that 0 0 0 for bits 1.2298.15:13 are Normal (non-test) operation. And 45.2.1.174c.1 clearly states, "The default value for bits 1.2298.15:13 is zero."

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

|                                                                                                                                                                                                                                                                 |                       |                        |             |                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------|-------------|------------------|
| <b>CI 45</b>                                                                                                                                                                                                                                                    | <b>SC 45.2.1.174d</b> | <b>P 40</b>            | <b>L 39</b> | # <b>708</b>     |
| Kabra, Lokesh                                                                                                                                                                                                                                                   |                       | Synopsys Inc           |             |                  |
| <b>Comment Type</b>                                                                                                                                                                                                                                             | <b>T</b>              | <b>Comment Status</b>  | <b>D</b>    | <b>Registers</b> |
| Bit 1.2299.13 "Loopback" is a copy of Bit 1.0.0 (currently reserved). Suggest to map this one to 1.2294.0 to keep the bit position same in both registers. This make it similar to poision of Reset and Low Power bits that have same offset as in register 1.0 |                       |                        |             |                  |
| <b>SuggestedRemedy</b>                                                                                                                                                                                                                                          |                       |                        |             |                  |
| Change mapping to bit "1.2299.0" globally (multiple places)                                                                                                                                                                                                     |                       |                        |             |                  |
| <b>Proposed Response</b>                                                                                                                                                                                                                                        |                       | <b>Response Status</b> | <b>W</b>    |                  |
| PROPOSED ACCEPT IN PRINCIPLE.                                                                                                                                                                                                                                   |                       |                        |             |                  |
| Change 1.2299.13 to Reserved Value always zero, RO                                                                                                                                                                                                              |                       |                        |             |                  |
| Insert new bottom row of Table 45-142d for 1.2290.0 Loopback   1 = Enable loopback mode 0= Disable loopback mode   R/W                                                                                                                                          |                       |                        |             |                  |
| Adjust reserved row (to 1.2299.9:1)                                                                                                                                                                                                                             |                       |                        |             |                  |
| Move 45.2.1.174d.3 Loopback (1.2299.13) subclause after 45.2.1.174d.5 Multidrop mode and make it 1.2290.0, and change references to 1.2299.13 to be 1.2299.0 (3 instances) in that paragraph.                                                                   |                       |                        |             |                  |
| Change MM187, MM188, MM189, and MM PICS (page 53) to 1.2299.0                                                                                                                                                                                                   |                       |                        |             |                  |
| Change reference to 1.2299.13 in 147.5.4.6 Alien crosstalk noise rejection (page 165, line 50) from 1.2299.13 to 1.2299.0 (add cross ref)                                                                                                                       |                       |                        |             |                  |

|                                                                                                                                                                                                            |                       |                        |             |                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------|-------------|-----------------------|
| <b>CI 45</b>                                                                                                                                                                                               | <b>SC 45.2.1.174d</b> | <b>P 40</b>            | <b>L 44</b> | # <b>268</b>          |
| KIM, YONG                                                                                                                                                                                                  |                       | NIO                    |             |                       |
| <b>Comment Type</b>                                                                                                                                                                                        | <b>TR</b>             | <b>Comment Status</b>  | <b>D</b>    | <b>Mixing Segment</b> |
| Multidrop mode is not clear. If the TX or RX characteristics change, then it may be clearer to provide control around TX or RX parameters. Multidrop mode seems to indicate MAC/RS type of layer function. |                       |                        |             |                       |
| <b>SuggestedRemedy</b>                                                                                                                                                                                     |                       |                        |             |                       |
| Please use more direct parameter name as appropiorate.                                                                                                                                                     |                       |                        |             |                       |
| <b>Proposed Response</b>                                                                                                                                                                                   |                       | <b>Response Status</b> | <b>W</b>    |                       |
| PROPOSED ACCEPT IN PRINCIPLE.                                                                                                                                                                              |                       |                        |             |                       |
| Add "(see Clause 147)" after "multidrop mode over a mixing segment network" in paragraph 45.2.1.174d.5 at P41 L51.                                                                                         |                       |                        |             |                       |

|                               |                       |                        |             |              |
|-------------------------------|-----------------------|------------------------|-------------|--------------|
| <b>CI 45</b>                  | <b>SC 45.2.1.174d</b> | <b>P 40</b>            | <b>L 44</b> | # <b>707</b> |
| Kabra, Lokesh                 |                       | Synopsys Inc           |             |              |
| <b>Comment Type</b>           | <b>E</b>              | <b>Comment Status</b>  | <b>D</b>    | <b>EZ</b>    |
| net-work                      |                       |                        |             |              |
| <b>SuggestedRemedy</b>        |                       |                        |             |              |
| network                       |                       |                        |             |              |
| <b>Proposed Response</b>      |                       | <b>Response Status</b> | <b>W</b>    |              |
| PROPOSED ACCEPT IN PRINCIPLE. |                       |                        |             |              |
| Remove breaking hypen.        |                       |                        |             |              |

|                                                                                                   |                         |                        |            |              |
|---------------------------------------------------------------------------------------------------|-------------------------|------------------------|------------|--------------|
| <b>CI 45</b>                                                                                      | <b>SC 45.2.1.174d.1</b> | <b>P 41</b>            | <b>L 3</b> | # <b>356</b> |
| Yseboodt, Lennart                                                                                 |                         | Signify                |            |              |
| <b>Comment Type</b>                                                                               | <b>E</b>                | <b>Comment Status</b>  | <b>D</b>   | <b>EZ</b>    |
| "Resetting the 10BASE-T1S PMA/PMD is accomplished by setting bit 1.2299.15 to a one."             |                         |                        |            |              |
| Change 'a one' to 'one'.                                                                          |                         |                        |            |              |
| <b>SuggestedRemedy</b>                                                                            |                         |                        |            |              |
| Replace by: "Resetting the 10BASE-T1S PMA/PMD is accomplished by setting bit 1.2299.15 to a one." |                         |                        |            |              |
| <b>Proposed Response</b>                                                                          |                         | <b>Response Status</b> | <b>W</b>   |              |
| PROPOSED ACCEPT IN PRINCIPLE.                                                                     |                         |                        |            |              |
| Replace, "by setting bit 1.2299.15 to a one" with, "by setting bit 1.2299.15 to one".             |                         |                        |            |              |

|                                                             |                         |                        |             |                  |
|-------------------------------------------------------------|-------------------------|------------------------|-------------|------------------|
| <b>CI 45</b>                                                | <b>SC 45.2.1.174d.1</b> | <b>P 41</b>            | <b>L 14</b> | # <b>462</b>     |
| Jones, Peter                                                |                         | Cisco                  |             |                  |
| <b>Comment Type</b>                                         | <b>TR</b>               | <b>Comment Status</b>  | <b>D</b>    | <b>Editorial</b> |
| Why does this say "may"?                                    |                         |                        |             |                  |
| <b>SuggestedRemedy</b>                                      |                         |                        |             |                  |
| Change to "Interruption to data communication is expected." |                         |                        |             |                  |
| <b>Proposed Response</b>                                    |                         | <b>Response Status</b> | <b>W</b>    |                  |
| PROPOSED ACCEPT IN PRINCIPLE.                               |                         |                        |             |                  |
| Consider with 169.                                          |                         |                        |             |                  |
| Replace, "This operation may interrupt data communication." |                         |                        |             |                  |
| with, "This operation interrupts data communication."       |                         |                        |             |                  |

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 45 SC 45.2.1.174d.4 P 41 L 34 # 461  
Jones, Peter Cisco

Comment Type TR Comment Status D Registers

How does this relate to LPI low-power-idle mode?

## SuggestedRemedy

Clairfy "Low-power" vs "low-power-idle".

Proposed Response Response Status W

PROPOSED REJECT.

Master comment 610. Resolve with 610 and 460.

This does not relate to low power idle. "Low power" is the same term used in nearly all 802.3 PHYs for this capability with this same description. It is found in 1.1.1 (45.2.1.5) as well as in the BASE-T1 registers at 45.2.1.187.3, 45.2.1.188.4, and also in 3.0.11 (45.2.3.1.3) and numerous other places. Changing the name for the same function with the same description would add confusion.

CI 45 SC 45.2.1.174d.4 P 41 L 41 # 344  
Yseboodt, Lennart Signify

Comment Type TR Comment Status D Editorial

"While in the low-power mode, the device shall, as a minimum, respond to management transactions necessary to exit the low-power mode."

The 'as a minimum' hints at desired behavior that isn't specified. Either the sentence should state what that is, or be simplified.

## SuggestedRemedy

Replace by: "While in the low-power mode, the device shall respond to management transactions necessary to exit the low-power mode."

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 45 SC 45.2.1.174d.4 P 41 L 44 # 170  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type T Comment Status D Big Ticket Item Power

The data path .

## SuggestedRemedy

Needs to be discussed with the group, if this text is needed here. As the 10BASE-T1S has no link training, getting to normal operation should be much faster than for 10BASE-T1L. If text is kept, then the font size of 10BASE-T1S PMD needs to be adapted to the rest of the text in the note.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Group to discuss.

CI 45 SC 45.2.1.174d.4 P 41 L 44 # 169  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D Editorial

[EASY] This operation interrupts data communication.

## SuggestedRemedy

For 10BASE-T1L the equivalent text is: This operation may interrupt data communication. (Should be adapted to be the same for both PHY types.)

Proposed Response Response Status W

PROPOSED REJECT.

Consider with 462.

CI 45 SC 45.2.1.174d.5 P 41 L 53 # 357  
Yseboodt, Lennart Signify

Comment Type E Comment Status D EZ

"The 10BASE-T1S PMA/PMD shall operate in multidrop mode over a mixing segment network when bit 1.2299.10 is set to a one."

## SuggestedRemedy

Change "a one" to "one".

Proposed Response Response Status W

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 45 SC 45.2.1.174e P 42 L 17 # 709  
Kabra, Lokesh Synopsys Inc

Comment Type T Comment Status D Registers

"Low Power " control bit is Bit 1.2299.11. Suggest to map "Low Power Ability" to 1.2230.11 (currently reserved) to keep the bit position same in both registers. This helps in avoiding bit shifting when software wants to mask setting of Low-Power with "Low-Power ability" read from this register

## SuggestedRemedy

Change mapping to bit "1.2300.11" globally (multiple places)

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

This remedy assumes that the resolution to #710 has been implemented.

Delete row for Bit 1.2299.11 from Table 45-142d and replace reserved row bits "1.2299.9:0" with "1.2299.11:0".

Insert row for  
1.2300.11 Low-power  
1 = Low-power mode  
0 = Normal operation  
R/W

into Table 45-142e and replace reserved row bits "1.2300.12:10" with 1.2300.12".

Move 45.2.1.174d.4 Low-power (1.2299.11) subclause after 45.2.1.174e.1 10BASE-T1S loopback ability (1.2300.13) and change references to 1.2299.11 to be 1.2300.11 (3 instances) in that paragraph and change reference to 1.2299.11 to be 1.2300.11 in the clause header.

Replace, " 1.2299.11" with "1.2300.11" on page 42, line 48.

CI 45 SC 45.2.1.174e P 42 L 20 # 710  
Kabra, Lokesh Synopsys Inc

Comment Type T Comment Status X Registers

"Multidrop mode " control bit is Bit 1.2299.10. Suggest to map "Multidrop Ability" to 1.2230.10 (currently reserved) to keep the bit position same in both registers. This helps in avoiding bit shifting when software wants to mask setting of Multidrop with "Multidrop ability" read from this register

## SuggestedRemedy

Change mapping to bit "1.2300.10" globally (multiple places)

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Delete row for Bit 1.2299.10 from Table 45-142d and replace reserved row bits "1.2299.9:0" with "1.2299.10:0".

Insert row for  
1.2300.10 Multidrop mode  
1 = Enable operation over mixing segment net-work  
0 = Disable operation over mixing segment network  
R/W

into Table 45-142e and replace reserved row bits "1.2300.12:10" with 1.2300.12:11".

Move 45.2.1.174d.5 Multidrop mode (1.2299.10) subclause after 45.2.1.174e.1 10BASE-T1S loopback ability (1.2300.13) and change references to 1.2299.10 to be 1.2300.10 (3 instances) in that paragraph and change reference to 1.2299.10 to be 1.2300.10 in the clause header.

Replace "1.2299.10" with "1.2300.10" on page 43, line 2 (2 locations).

CI 45 SC 45.2.1.174e P 42 L 21 # 271  
KIM, YONG NIO

Comment Type TR Comment Status D Registers

Multidrop mode is not clear. If the TX or RX characteristics change, then it may be clearer to provide control around TX or RX parameters. Multidrop mode seems to indicate MAC/RS type of layer function.

## SuggestedRemedy

Please use more direct parameter name as appropriate.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Add "(see Clause 147)" after "multidrop mode over a mixing segment network" in paragraph 45.2.1.174e.4 at P42 L52.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

**Cl 45**      **SC 45.2.1.185.2**      **P 36**      **L 13**      # **434**  
Wienckowski, Natalie      General Motors

**Comment Type T**      **Comment Status D**      **AutoNeg**  
Missing subclause

**SuggestedRemedy**  
Add the following Editor Instruction and text: Insert the following text after the third sentence of 45.2.1.185.2 as follows: When these bits are set to 0010, the mode of operation is 10BASE-T1L. When these bits are set to 0011, the mode of operation is 10ASE-T1S.

**Proposed Response**      **Response Status W**  
PROPOSED ACCEPT IN PRINCIPLE.

Master comment 434. Consider with 46.

Add after Table 45-141 (renumbered to Table 45-149 by comment 424),

Change the paragraph for bits 1.2100.3:0 as follows: <formatted as Editing Instruction>

45.2.1.185.2 Type selection (1.2100.3:0)

Bits 1.2100.3:0 are used to set the mode of operation when Auto-Negotiation enable bit 7.512.12 is set to zero, or if Auto-Negotiation is not implemented. <start underline format> When these bits are set to 0010, the mode of operation is 10BASE-T1L. When these bits are set to 0011, the mode of operation is 10BASE-T1S. <stop underline format> When these bits are set to 0000, the mode of operation is 100BASE-T1. When these bits are set to 0001, the mode of operation is 1000BASE-T1. These bits shall be ignored when the Auto-Negotiation enable bit 7.512.12 is set to one.

**Cl 45**      **SC 45.2.1.185.2**      **P 36**      **L 14**      # **46**  
Anslow, Pete      Ciena

**Comment Type T**      **Comment Status X**      **AutoNeg**  
Subclause 45.2.1.185.2 in the base standard describes the functions of bits 1.2100.3:0, so needs to be modified for the addition of 10BASE-T1S and 10BASE-T1L.

**SuggestedRemedy**  
Bring 45.2.1.185.2 in to the draft and show modifications to account for the addition of 10BASE-T1S and 10BASE-T1L.

**Proposed Response**      **Response Status W**  
PROPOSED ACCEPT IN PRINCIPLE.

Master comment 434. Consider with 434.

Add after Table 45-141 (renumbered to Table 45-149 by comment 424),

Change the paragraph for bits 1.2100.3:0 as follows: <formatted as Editing Instruction>

45.2.1.185.2 Type selection (1.2100.3:0)

Bits 1.2100.3:0 are used to set the mode of operation when Auto-Negotiation enable bit 7.512.12 is set to zero, or if Auto-Negotiation is not implemented. <start underline format> When these bits are set to 0010, the mode of operation is 10BASE-T1L. When these bits are set to 0011, the mode of operation is 10BASE-T1S. <stop underline format> When these bits are set to 0000, the mode of operation is 100BASE-T1. When these bits are set to 0001, the mode of operation is 1000BASE-T1. These bits shall be ignored when the Auto-Negotiation enable bit 7.512.12 is set to one.

**Cl 45**      **SC 45.2.3**      **P 44**      **L**      # **146**  
Lewis, Jon      Dell EMC

**Comment Type E**      **Comment Status D**      **EZ**  
remove the '1' in both register names: 10BASE-T1L PCS status 1 and 10BASE-T1S PCS status 1. We removed the second register and this is to clean up the names of the remaining registers.

**SuggestedRemedy**  
Change to: 10BASE-T1L PCS status and 10BASE-T1S PCS status

**Proposed Response**      **Response Status W**  
PROPOSED ACCEPT IN PRINCIPLE.

Change to 10BASE-T1L PCS status on line 14 and 10BASE-T1S PCS status on line 21



# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 45 SC 45.2.3 P 44 L 22 # 548  
 Beruto, Piergiorgio Canova Tech Srl  
 Comment Type T Comment Status D Jabber  
 [JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.  
 SuggestedRemedy  
 In table 45-176:  
 - remove register 3.2293 from Reserved bucket  
 - add register 3.2293 as a separate entry  
 Register Address: 3.2293  
 Register Name: 10BASE-T1S PCS Diagnostic 1  
 Subclause: 45.2.3.58g  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 45 SC 45.2.3 P 44 L 22 # 554  
 Beruto, Piergiorgio Canova Tech Srl  
 Comment Type T Comment Status D PLCA  
 [PLCA\_XWORK] PLCA is meant to interwork with non PLCA enabled nodes on the same mixing segment. Fixes are needed to fully cover this case.  
 SuggestedRemedy  
 In table 45-176:  
 - remove register 3.2294 from Reserved bucket  
 - add register 3.2294 as a separate entry  
 Register Address: 3.2294  
 Register Name: 10BASE-T1S PCS Diagnostic 2  
 Subclause: 45.2.3.58h  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 45 SC 45.2.3.58a P 44 L 26 # 48  
 Anslow, Pete Ciena  
 Comment Type E Comment Status D EZ  
 The numbering in the editing instruction: "Insert 45.2.3.58a through 45.2.3.58i after 45.2.3.58 as follows:" does not match the numbering in the base standard and includes more subclauses than are in the current draft.  
 Also, the inserted Table numbers are not correct.  
 SuggestedRemedy  
 Change the editing instruction to: "Insert 45.2.3.68a through 45.2.3.68f after 45.2.3.68 as follows:"  
 Change the inserted tables from Table 45-220a through Table 45-220f to be Table 45-237a through Table 45-237f  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 45 SC 45.2.3.58a P 44 L 28 # 435  
 Wienckowski, Natalie General Motors  
 Comment Type E Comment Status D EZ  
 Assuming the registers are supposed to be in order, this is not the correct subsection.  
 SuggestedRemedy  
 Change 45.2.3.58x to 45.2.3.68x.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 45 SC 45.2.3.58a P 45 L 12 # 272  
 KIM, YONG NIO  
 Comment Type TR Comment Status D Registers  
 "10BASE-T1L PCS shall be placed." "10BASE-T1L shall accept." are not right -- loopback ability seems optional. Also a "shall accept data" -- what does it mean to "accept data"?  
 SuggestedRemedy  
 Please correct and clarify.  
 Proposed Response Response Status W  
 PROPOSED REJECT.

The text "PCS shall be placed..." (referring to loopback modes) occurs 10 times in IEEE Std 802.3-2018 and is the normal way of referring to this operation. "shall accept data on the transmit path... And return it on the receive path" occurs 19 times to further describe loopback.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

Cl 45 SC 45.2.3.58b P 45 L 46 # 171  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ

RO = Read only

## SuggestedRemedy

RO = Read only, LH = Latching high, LL = Latching low (LH and LL definitions are missing)

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Replace, "RO = Read only" with "RO = Read only, LH = Latching high, LL = Latching low"

Cl 45 SC 45.2.3.58c P 47 L 1 # 49  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

In the title of 45.2.3.58c and the title of Table 45-220c "10BASE-T1S-PLCA" should be "10BASE-T1S PLCA"

## SuggestedRemedy

In the title of 45.2.3.58c and the title of Table 45-220c, change "10BASE-T1S-PLCA" to "10BASE-T1S PLCA"

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 45 SC 45.2.3.58c P 47 L 9 # 371  
Matheus, Kirsten BMW AG

Comment Type TR Comment Status D Editorial

the field should not indicate the maximum number of nodes, but the maximum number of Ids. This might not be the same if one node is assigned multiple Ids during one circle.

## SuggestedRemedy

Change "nodes" with "nodeIDs"

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 45 SC 45.2.3.58c P 47 L 11 # 372  
Matheus, Kirsten BMW AG

Comment Type E Comment Status D PLCA

If a node receives multiple Ids the register needs to be repeated. Not sure whetehr this should be mentioned here.

## SuggestedRemedy

I leave it to the group if this is needed or not

Proposed Response Response Status W

PROPOSED REJECT.

Task Force to Discuss.

At the current time, Clause 148 only supports one ID per PHY. Edits to clause 148 would have to be offered to allow more nodeIDs per PHY.

Cl 45 SC 45.2.3.58c P 47 L 19 # 274  
KIM, YONG NIO

Comment Type TR Comment Status D PLCA

If PLCA network does not work with repeaters, and a single multiple access segment cannot go beyond <nn> of nodes, why is the field much greater than necessary? It would be appropriate to set the value range to be the same as the actual segment max, and set the rest of the bits as reserved.

## SuggestedRemedy

Please do so.

Proposed Response Response Status W

PROPOSED REJECT.

PLCA does not have a maximum size specified in Clause 148.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 45 SC 45.2.3.58c P 47 L 25 # 273  
KIM, YONG NIO

Comment Type TR Comment Status D PLCA

Does the network segment work fine when nodes initialize with all defaults (in this case nodeID=255)? If so, then please explain how it works in CL147. If not, please explain why the default value matter.

## SuggestedRemedy

Please reference appropriate part of CL147 that describes NodeID=255 default operation, or delete, or add other clarifications needed.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Replace "The default value of bits 3.2289.7:0 is 255." with, "The configurarion of local\_nodeID is beyond the scope of this standard. When PLCA operation is disabled these values have no effect."

CI 45 SC 45.2.3.58c P 47 L 27 # 50  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

In the title of 45.2.3.58d and the title of Table 45-220d "10BASET1S-PLCA" should be "10BASE-T1S PLCA"

## SuggestedRemedy

In the title of 45.2.3.58d and the title of Table 45-220d, change "10BASET1S-PLCA" to "10BASE-T1S PLCA"

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 45 SC 45.2.3.58c.1 P 47 L 18 # 527  
Beruto, Piergiorgio Canova Tech Srl

Comment Type T Comment Status D PLCA

[MASTER] [MAX\_ID] MAX\_ID definition is not consistent to its usage in Clause 148

## SuggestedRemedy

Replace "define the number of maximum nodes that can be handled on the PLCA network. The default value of bits 3.2289.15:8 is 8" with "define the highest node ID getting a transmit opportunity before a new BEACON is generated. The default value of bits 3.2289.15:8 is 7"

In Table 45-220c replace "8 bit field indicating the max number of nodes on the PLCA network" with "8 bit field indicating the highest node ID getting a transmit opportunity"

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 45 SC 45.2.3.58d.1 P 47 L 43 # 377  
Matheus, Kirsten BMW AG

Comment Type E Comment Status X Management

See comment 9. Should be aligned with it

## SuggestedRemedy

Align with remedy of comment 9

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 312. Resolve with 370 and 377.

Insert "aPLCATransmitOpportunity maps to the duration of the timer TO\_TIMER. The value of aPLCATransmitOpportunity is an integer number between 1 and 65535, expressed as a the duration of TO\_TIMER in bit times. See 148.4.5.4 for further information." after "transmit opportunities." on page 32, line 42.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 45 SC 45.2.3.58d.1 P 47 L 44 # 275  
KIM, YONG NIO

Comment Type TR Comment Status D PLCA

Default value of 20 bit times seems excessive for system that initialize with the value, when E2E delay for 25 m is 1.25 BT. Adding RX latency (148.4.5.1) delta, which is not spec'ed but the worst case (one could be at 0 us and another could be at 4 us in 147.11) the value could be 41.25 us for 25 m segment. None of these equate to 20 bit times default.

## SuggestedRemedy

Please spec appropriate default for system operation when systems initialize from default.

Proposed Response Response Status W

PROPOSED REJECT.

Commenter does not provide sufficient remedy. The default value for PLCA TO\_TIMER was considered by the Task Force.

CI 45 SC 45.2.3.58e.3 P 48 L 45 # 276  
KIM, YONG NIO

Comment Type TR Comment Status D Big Ticket Item PLCA\_EN

PLCA is not a part of PCS. Need to move this bit to appropriate layer (RS) register

## SuggestedRemedy

Please do so.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 276. Consider with 277 and 278.

Move \*all\* PLCA related bits to a dedicated subclause / address range in Clause 45. This includes registers to be added after accepting #556 (see [http://www.ieee802.org/3/cg/public/adhoc/beruto\\_3cg\\_PLCA\\_status.pdf](http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_PLCA_status.pdf))

Refer to presentation from Piergiorgio Beruto.

CI 45 SC 45.2.3.58e.4 P 48 L 50 # 277  
KIM, YONG NIO

Comment Type TR Comment Status X Big Ticket Item PLCA\_EN

PLCA is not a part of PCS. Need to move this bit to appropriate layer (RS) register

## SuggestedRemedy

Please do so.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 276. Consider with 277 and 278.

Move \*all\* PLCA related bits to a dedicated subclause / address range in Clause 45. This includes registers to be added after accepting #556 (see [http://www.ieee802.org/3/cg/public/adhoc/beruto\\_3cg\\_PLCA\\_status.pdf](http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_PLCA_status.pdf))

Refer to presentation from Piergiorgio Beruto.

CI 45 SC 45.2.3.58f.1 P 49 L 27 # 278  
KIM, YONG NIO

Comment Type TR Comment Status X Big Ticket Item PLCA\_EN

PLCA is not a part of PCS. Need to move this bit to appropriate layer (RS) register

## SuggestedRemedy

Please do so.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 276. Consider with 277 and 278.

Move \*all\* PLCA related bits to a dedicated subclause / address range in Clause 45. This includes registers to be added after accepting #556 (see [http://www.ieee802.org/3/cg/public/adhoc/beruto\\_3cg\\_PLCA\\_status.pdf](http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_PLCA_status.pdf))

Refer to presentation from Piergiorgio Beruto.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 45 SC 45.2.3.58g P 49 L 39 # 549  
Beruto, Piergiorgio Canova Tech Srl

Comment Type T Comment Status D Jabber  
[JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

## SuggestedRemedy

Add subclause 45.2.3.58g 10BASE-T1S PCS Diagnostic 1  
- Add table 45-220g-10BASE-T1S PCS Diagnostic 1 register bit definitions  
Bit(s): 3.2293.15:0  
Name: RemJabCnt  
Description: 16 bit field counting the number of remote jabber errors received since last read of this register.  
R/W: RO - SC  
- Add subclause 45.2.3.58g.1 RemJabCnt (3.2293.15:0)  
Reports the number of received jabber events occurred since last time register 3.2293 was read

Proposed Response Response Status W  
PROPOSED ACCEPT.

CI 45 SC 45.2.3.58h P 49 L 39 # 555  
Beruto, Piergiorgio Canova Tech Srl

Comment Type T Comment Status D PLCA  
[PLCA\_XWORK] PLCA is meant to interwork with non PLCA enabled nodes on the same mixing segment. Fixes are needed to fully cover this case.

## SuggestedRemedy

Add subclause 45.2.3.58h 10BASE-T1S PCS Diagnostic 2  
- Add table 45-220h-10BASE-T1S PCS Diagnostic 2 register bit definitions  
Bit(s): 3.2294.15:0  
Name: PhysicalColCnt  
Description: 16 bit field counting the number of physical collisions occurred since last read of this register.  
R/W: RO - SC  
- Add subclause 45.2.3.58h.1 PhysicalColCnt (3.2293.15:0)  
Reports the number of physical collisions (i.e. excluding the ones triggered by the optional PLCA RS) occurred since last time register 3.2294 was read

Proposed Response Response Status W  
PROPOSED ACCEPT.

CI 45 SC 45.2.3.58c 1 P 47 L 20 # 373  
Matheus, Kirsten BMW AG

Comment Type ER Comment Status D Editorial  
Not max number of nodes but of Ids

## SuggestedRemedy

Exchange "nodes" with "Node IDS"

Proposed Response Response Status W  
PROPOSED ACCEPT.

CI 45 SC 45.2.145.2 P 35 L # 315  
KIM, YONG NIO

Comment Type TR Comment Status D PLCA  
Without regard to my other comment on PLCA in RS layer, PLCA presence should be a part of the Table 45-2 but is missing.

## SuggestedRemedy

Please add PLCA as stated (unless PLCA function is deleted from the draft).

Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.

Refer to presentation from Piergiorgio Beruto showing the changes to be made to Table 45-1 and Table 45-2 to support PLCA.

CI 45 SC 45.5.3.3 P 50 L 8 # 51  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ  
Most of page 50 is blank.

## SuggestedRemedy

move the editing instruction and the start of the PICS table on to page 50.

Proposed Response Response Status W  
PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 45 SC 45.5.3.3 P 51 L 1 # 52  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ  
Editing instructions should be explicit as to where the editing should be performed.

## SuggestedRemedy

Change the editing instruction to: "Insert PICS items MM152 through MM192 at the end of the table in 45.5.3.3 as follows:"

Proposed Response Response Status W  
PROPOSED ACCEPT.

CI 45 SC 45.5.3.3 P 51 L 9 # 172  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ  
[EASY] othersie

SuggestedRemedy  
otherwise

Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.

Replace, "othersie" with "otherwise"

CI 45 SC 45.5.3.3 P 51 L 37 # 173  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ  
[EASY] . disable the transmitter

## SuggestedRemedy

. disables the transmitter (add "s" after disable)

Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.

Replace, "disable the transmitter" with "disables the transmitter"

CI 45 SC 45.5.3.3 P 52 L 10 # 174  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ  
[EASY] 1.2294.11

## SuggestedRemedy

1.2294.10 (EEE bit is 1.2294.10 instead of 1.2294.11)

Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.

Replace, "1.2294.11" with "1.2294.10"

CI 45 SC 45.5.3.3 P 52 L 13 # 175  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status X EZ  
[EASY] 1.2294.11

## SuggestedRemedy

1.2294.10 (EEE bit is 1.2294.10 instead of 1.2294.11)

Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.

Replace, "1.2294.11" with "1.2294.10"

CI 45 SC 45.5.3.3 P 52 L 19 # 176  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ  
[EASY] othersie

SuggestedRemedy  
otherwise

Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.

Replace, "othersie" with "otherwise"

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 45 SC 45.5.3.3 P 53 L 6 # 177  
 Graber, Steffen Pepperl+Fuchs GmbH  
 Comment Type E Comment Status D EZ  
 [EASY] . disable the transmitter  
 SuggestedRemedy  
 . disables the transmitter (add "s" after disable)  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Replace, "disable the transmitter" with "disables the transmitter"

CI 45 SC 45.5.3.3 P 53 L 18 # 178  
 Graber, Steffen Pepperl+Fuchs GmbH  
 Comment Type E Comment Status D EZ  
 [EASY] Setting either 1.2299.12 or 1.0.12 sets the other  
 SuggestedRemedy  
 Setting either 1.2299.11 or 1.0.11 sets the other (Low Power Bit is 11 not 12)  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Replace: "Setting either 1.2299.12 or 1.0.12" with "Setting either 1.2299.11 or 1.0.11"

CI 45 SC 45.5.3.3 P 53 L 20 # 179  
 Graber, Steffen Pepperl+Fuchs GmbH  
 Comment Type E Comment Status D EZ  
 [EASY] Clearing either 1.2299.12 or 1.0.12 clears the other  
 SuggestedRemedy  
 Clearing either 1.2299.11 or 1.0.11 clears the other (Low Power Bit is 11 not 12)  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Replace: "Clearing either 1.2299.12 or 1.0.12" with "Clearing either 1.2299.11 or 1.0.11"

CI 45 SC 45.5.3.3 P 53 L 22 # 180  
 Graber, Steffen Pepperl+Fuchs GmbH  
 Comment Type T Comment Status D Power  
 Functionality for bit 1.2299.11 is missing in PICS.  
 SuggestedRemedy  
 Please add new line MM193 with the following content: Feature: Setting either 1.2299.11 or 1.0.11 puts the 10BASE-T1S PMA/PMD in low-power mode, Subclause: 45.2.1.174d.4, Status: PMA:M, Support: Yes [ ] N/A [ ]  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 45 SC 45.5.3.7 P 54 L 3 # 53  
 Anslow, Pete Ciena  
 Comment Type E Comment Status D EZ  
 Editing instructions should be explicit as to where the editing should be performed.  
 SuggestedRemedy  
 Change the editing instruction to: "Insert PICS items RM158 through RM186 at the end of the table in 45.5.3.7 as follows:"  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 45 SC 45.5.3.7 P 54 L 17 # 181  
 Graber, Steffen Pepperl+Fuchs GmbH  
 Comment Type E Comment Status D EZ  
 [EASY] 3.2304.15  
 SuggestedRemedy  
 3.2278.15 (PCS Control Register of 10BASE-T1L)  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Replace "3.2304.15" with "3.2278.15"

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 78 SC 78.1.3.3.1 P 57 L 10 # 431  
Wienckowski, Natalie General Motors

Comment Type T Comment Status D EZ

This is not the correct section based on P8023\_D3p2.

## SuggestedRemedy

Move "Table 78-1 - Clauses associated with each PHY or interface type" to section "78.1.4 PHY types optionally supporting EEE".

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 78 SC 78.1.3.3.1 P 57 L 20 # 54  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

The order of entries in Table 78-1 was established via Comment #65 against P802.3cj D2.0. See:  
<http://www.ieee802.org/3/cj/comments/P8023-D2p0-Comments-Final-byID.pdf#page=14>  
According to these rules the order after insertion of the two new PHYs should be:  
10BASE-T1S  
10BASE-Te  
10BASE-T1L  
...

## SuggestedRemedy

Change the editing instruction to:  
"Insert a row for 10BASE-T1S at the top and a row for 10BASE-T1L after 10BASE-Te in Table 78-1 as follows (unchanged rows not shown):"  
Change the excerpt from Table 78-1 to be:  
"10BASE-T1S", "147"  
ellipsis row  
"10BASE-T1L", "146"  
ellipsis row

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

CI 78 SC 78.1.3.3.1 P 57 L 22 # 711  
Kabra, Lokesh Synopsys Inc

Comment Type E Comment Status D Power

In Table 78-1, delete row corresponding to 10BASE-T1S; As per clause 147.1, 3rd paragrap "DME-based 10BASE-T1S is silent during idle symbols making it inherently energy efficient and without the need for a separate low-power-idle (LPI) mode, as is defined in Clause 78". Hence LPI signalling is not used/applicable for 10BASE-T1S

## SuggestedRemedy

Delete row "10BASE-T1S"

Proposed Response Response Status W

PROPOSED ACCEPT.

Master comment 711. Resolve with 432, 280, 279.

CI 78 SC 78.2 P 57 L 39 # 55  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

The new row for 10BASE-T1L is being inserted into a table column that already contains numbers above 10 000. In this case according to the rules set out in:  
[http://www.ieee802.org/3/WG\\_tools/editorial/requirements/words.html#numbers](http://www.ieee802.org/3/WG_tools/editorial/requirements/words.html#numbers)  
any four digit numbers should contain a space as a thousands separator.

## SuggestedRemedy

In Table 78-2 replace "2000" with "2 000" and replace "2100" with "2 100"

Proposed Response Response Status W

PROPOSED ACCEPT.



# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 78 SC 78.2 P 57 L 40 # 432  
Wienckowski, Natalie General Motors

Comment Type T Comment Status D Power  
missing row for 10BASE-T1S. This is in Table 78-1 so it needs the parameters defined for it.

## SuggestedRemedy

Add row for 10BASE-T1S with appropriate values or add 10BASE-T1S in the same row as 10BASE-T1L.

The same needs to be done for table 78-4 in section 78.5.

Proposed Response Response Status W

PROPOSED REJECT.

Master comment 711. Resolve with 711, 280, 279.

As per clause 147.1, 3rd paragrap "DME-based 10BASE-T1S is silent during idle symbols making it inherently energy efficient and without the need for a separate low-power-idle (LPI) mode, as is defined in Clause 78". Hence LPI signalling is not used/applicable for 10BASE-T1S

CI 78 SC 78.2 P 57 L 41 # 279  
KIM, YONG NIO

Comment Type TR Comment Status D Power  
Obvious omission of 10BASE-T1S entry.. Why is it not listed? Objectives list still shjows optional EEE. 147.1 says "DME-based 10BASE-T1S is silent during idle symbols making it inherently energy efficient and without the need for a separate low-power-idle (LPI) mode, as is defined in Clause 78".

## SuggestedRemedy

Please complete it. Or change the adopted objectives to reflect the draft.

Proposed Response Response Status W

PROPOSED REJECT.

Master comment 711. Resolve with 711, 432, and 280.

As per clause 147.1, 3rd paragrap "DME-based 10BASE-T1S is silent during idle symbols making it inherently energy efficient and without the need for a separate low-power-idle (LPI) mode, as is defined in Clause 78". Hence LPI signalling is not used/applicable for 10BASE-T1S.

CI 78 SC 78.5 P 58 L 3 # 1  
Hajduczenia, Marek Charter

Comment Type E Comment Status D EZ  
Extra full stop at the end of editorial note

## SuggestedRemedy

Remove extra full stop

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Delete "." after ":" on line 3.

CI 78 SC 78.5 P 58 L 15 # 280  
KIM, YONG NIO

Comment Type TR Comment Status D Power  
Obvious omission of 10BASE-T1S entry.. Why is it not listed? Objectives list still shjows optional EEE. 147.1 says "DME-based 10BASE-T1S is silent during idle symbols making it inherently energy efficient and without the need for a separate low-power-idle (LPI) mode, as is defined in Clause 78".

## SuggestedRemedy

Please complete it. Or change the adopted objectives to reflect the draft.

Proposed Response Response Status W

PROPOSED REJECT.

Master comment 711. Resolve with 711, 432, and 279.

As per clause 147.1, 3rd paragrap "DME-based 10BASE-T1S is silent during idle symbols making it inherently energy efficient and without the need for a separate low-power-idle (LPI) mode, as is defined in Clause 78". Hence LPI signalling is not used/applicable for 10BASE-T1S.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

Cl 98 SC 98 P 59 L 1 # 464  
Jones, Peter Cisco

Comment Type ER Comment Status D EZ

Why use "single differential-pair media" instead of "Single-Pair Ethernet" as used in the title of this standard

## SuggestedRemedy

Change to "Single-Pair Ethernet"

Proposed Response Response Status W

PROPOSED REJECT.

This is the title of existng clause 98. Changing the title requires a maintenance request.

Cl 98 SC 98.2.1.1.2 P 59 L 13 # 592  
Healey, Adam Broadcom Inc.

Comment Type E Comment Status D EZ

"auto negotiation" should be "Auto-Negotiation" in two instances (see [http://www.ieee802.org/3/WG\\_tools/editorial/requirements/words.html](http://www.ieee802.org/3/WG_tools/editorial/requirements/words.html)).

## SuggestedRemedy

Change per comment.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 98 SC 98.2.1.1.2 P 59 L 14 # 358  
Yseboodt, Lennart Signify

Comment Type E Comment Status D AutoNeg

Poorly formed sentence.

"There exist two different auto negotiation speeds, from which at least one auto negotiation speed shall be supported. When performing auto negotiation in high speed mode, DME pages shall be transmitted at a nominal data rate of 16.667 MBit/s. Doing auto negotiation in low speed mode, DME pages shall be trans- mitted at a nominal data rate of 625 kBit/s."

## SuggestedRemedy

"Two different auto negotiation speeds are defined in (\*\* where are they defined). A PHY shall support at least one of these auto negotiation speeds. When performing auto negotiation in high speed mode, DME pages shall be transmitted at a nominal data rate of 16.667 MBit/s. Doing auto negotiation in low speed mode, DME pages shall be trans- mitted at a nominal data rate of 625 kBit/s."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Incorporate suggested remedy, but merge in changes from comment 2 as new second sentence.

Cl 98 SC 98.2.1.1.2 P 59 L 15 # 18  
Lusted, Kent Intel

Comment Type ER Comment Status D EZ

Using an uppercase "B" for bit is uncommon. Usually, it is "bit" not "Bit". There are approximately 43 instances of "Mb/s" in 802.3 Revision Draft 3.2 section 4. There are no instances of "MBit/s".

## SuggestedRemedy

change "16.667 MBit/s" to "16.667 Mb/s".

Proposed Response Response Status W

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 98 SC 98.2.1.1.2 P 59 L 15 # 20  
Lusted, Kent Intel

Comment Type ER Comment Status D EZ

Using an uppercase "B" for bit is uncommon. Usually, it is "bit" not "Bit". There are approximately 33 instances of "kb/s" in 802.3 Revision Draft 3.2 section 4. There are no instances of "kBit/s".

## SuggestedRemedy

change "625 kBit/s" to "625 kb/s"

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 98 SC 98.2.1.1.2 P 59 L 15 # 463  
Jones, Peter Cisco

Comment Type TR Comment Status X Editorial

Where is the requirement for autonegotiation high speed mode stated?

## SuggestedRemedy

Add explanatory text

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 2. Resolve with 2.

In 98.2.1.1.2, page 59, line 13 insert the following sentences after the first sentence (with underlining), "There exist two different auto negotiation speeds, from which at least one auto negotiation speed shall be supported. The two speeds are referred to as "high-speed mode" or HSM and "low-speed mode" or LSM, respectively. HSM serves all speeds above 10 Mb/s. For link segments with high insertion loss, and those requiring 10BASE-T1L, LSM is provided to enable the full reach capability."

CI 98 SC 98.2.1.1.2 P 59 L 16 # 56  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

The 802.3 web page:  
[http://www.ieee802.org/3/WG\\_tools/editorial/requirements/words.html#bps](http://www.ieee802.org/3/WG_tools/editorial/requirements/words.html#bps)  
says: "only Mb/s and Gb/s should be used"

## SuggestedRemedy

Change "16.667 MBit/s." to "16.667 Mb/s."  
Change "625 kBit/s." to "625 kb/s."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

CI 98 SC 98.2.1.1.2 P 59 L 16 # 281  
KIM, YONG NIO

Comment Type TR Comment Status D Big Ticket Item AutoNeg

PHY operates at 10 Mbps onto medium that supports 10 MBps. If the automnegotiation ( high speed mode) operates at 16.667 Mb/s, it begs the question why the PHY is not operating at 16.667Mbps. Conversely, getting PHY + Medium to work reliability at 16.667 Mb/s just for the high speed mode not seem useful.

## SuggestedRemedy

Delete high speed mode.

Proposed Response Response Status W

PROPOSED REJECT.

High Speed Mode is added to enable multi-mode PHYs incorporating 10BASE-T1L as well as 10BASE-T1S to switch. See discussion at  
[http://www.ieee802.org/3/cg/public/adhoc/brandt\\_012517\\_3cg\\_01\\_adhoc.pdf](http://www.ieee802.org/3/cg/public/adhoc/brandt_012517_3cg_01_adhoc.pdf),  
[http://www.ieee802.org/3/cg/public/Sept2017/Gotttron\\_3cg\\_01a\\_0917.pdf](http://www.ieee802.org/3/cg/public/Sept2017/Gotttron_3cg_01a_0917.pdf), and  
[http://www.ieee802.org/3/cg/public/Nov2017/Graber\\_3cg\\_16a\\_1017.pdf](http://www.ieee802.org/3/cg/public/Nov2017/Graber_3cg_16a_1017.pdf).

CI 98 SC 98.2.1.1.2 P 59 L 18 # 343  
Yseboodt, Lennart Signify

Comment Type T Comment Status X EZ

"If both auto negotiation speeds are supported, a state machine shall be implemented to automatically choose between the different auto negotiation speeds, as described in 98.5.6."

This shall is duplicate to the one on 98.5.6:

"A PHY supporting two different Auto-Negotiation speeds, as described in 98.2.1.1.2 shall implement the behavior shown in Figure 98â?"11."

As a standalone sentence it is vague and untestable.

## SuggestedRemedy

Change it to an informative sentence:

"If both auto negotiation speeds are supported, a mechanism is defined in 98.5.6 that automatically makes a choice between the different speeds."

Proposed Response Response Status O

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 98 SC 98.2.1.1.2 P 59 L 25 # 3  
Hajduczenia, Marek Charter  
Comment Type E Comment Status D EZ  
Compound adjectives: low-speed and high-speed  
SuggestedRemedy  
Please use "high-speed mode" and "low-speed mode"  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Globally replace "high speed mode" with "high-speed mode" and replace "low speed mode" with "low-speed mode".

CI 98 SC 98.2.1.1.2 P 59 L 25 # 2  
Hajduczenia, Marek Charter  
Comment Type TR Comment Status D Editorial  
There is no definition of high-speed mode and low-speed mode anywhere in Clause 98 at this time.  
SuggestedRemedy  
Before (or at) the first use, explain (through referenece, for example) what the high speed and low speed modes are  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Master comment 2. Resolve with 463.  
In 98.2.1.1.2, page 59, line 13 insert the following sentences after the first sentence (with underlining), "There exist two different auto negotiation speeds, from which at least one auto negotiation speed shall be supported. The two speeds are referred to as "high-speed mode" or HSM and "low-speed mode" or LSM, respectively. HSM serves all speeds above 10 Mb/s. For link segments with high insertion loss, and those requiring 10BASE-T1L, LSM is provided to enable the full reach capability."

CI 98 SC 98.2.1.1.2 P 59 L 25 # 359  
Yseboodt, Lennart Signify  
Comment Type E Comment Status D Editorial  
"When operating in low speed mode, the period, T1, shall be 800.0 ns  $\pm$  0.005 %."  
Not English.  
SuggestedRemedy  
"The period T1 shall be 800.0 ns  $\pm$  0.005 % when operating in low speed mode."  
Proposed Response Response Status W  
PROPOSED REJECT.  
Wording is clear as is.

CI 98 SC 98.2.1.1.2 P 59 L 26 # 57  
Anslow, Pete Ciena  
Comment Type E Comment Status D EZ  
1.2.6 of the base standard says "Unless otherwise stated, numerical limits in this standard are to be taken as exact, with the number of significant digits and trailing zeros having no significance."  
Also, usual practice in 802.3 is to not have a space between a number and %.  
SuggestedRemedy  
Show "shall be 30.0 ns  $\pm$  0.01%." as changing to "shall be 30 ns  $\pm$  0.01%."  
Change "800.0 ns  $\pm$  0.005 %" to "800 ns  $\pm$  0.005%"  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Show "shall be 30.0 ns  $\pm$  0.01%." as changing to "shall be 30 ns  $\pm$  0.01%."  
Change "800.0 ns  $\pm$  0.005 %" to "800 ns  $\pm$  0.005%"  
Ensure non-breaking spaces between numbers, units, and symbols

## Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

|              |               |       |      |      |
|--------------|---------------|-------|------|------|
| CI 98        | SC 98.2.1.1.2 | P 60  | L 11 | # 58 |
| Anslow, Pete |               | Ciena |      |      |

| <i>Comment Type</i> | <b>E</b> | <i>Comment Status</i> | <b>D</b> | <i>EZ</i> |
|---------------------|----------|-----------------------|----------|-----------|
|---------------------|----------|-----------------------|----------|-----------|

According to the rules set out in:  
[http://www.ieee802.org/3/WG\\_tools/editorial/requirements/words.html#numbers](http://www.ieee802.org/3/WG_tools/editorial/requirements/words.html#numbers)  
 in columns containing numbers with 5 or more digits to the left of the decimal point, any numbers with four or more digits to the left of the decimal point contain a space as a thousands separator.  
 Also, according to 1.2.8 of the base standard, empty cells in a table should contain an em-dash.

*SuggestedRemedy*

Add an underlined space as a thousands separator to the nine numbers with 4 or more digits to the left of the decimal point in Table 98-1.  
Replace the four hyphens with em-dashes

| <i>Proposed Response</i> | <i>Response Status</i> | <b>W</b> |
|--------------------------|------------------------|----------|
|--------------------------|------------------------|----------|

PROPOSED ACCEPT.

|                   |               |         |      |       |
|-------------------|---------------|---------|------|-------|
| CI 98             | SC 98.2.1.1.2 | P 60    | L 15 | # 336 |
| Yseboodt, Lennart |               | Signify |      |       |

|              |    |                |   |    |
|--------------|----|----------------|---|----|
| Comment Type | ER | Comment Status | D | EZ |
|--------------|----|----------------|---|----|

Empty cell in a Table should be marked as such with an em-dash.  
Table 98-1 uses hyphens "-".

*SuggestedRemedy*

Replace by em-dashes.

| Proposed Response | Response Status | W |
|-------------------|-----------------|---|
|-------------------|-----------------|---|

PROPOSED ACCEPT.

|                 |                           |                    |      |       |
|-----------------|---------------------------|--------------------|------|-------|
| Cl 98           | SC 98.2.1.1.3 (802.3 D3.2 | P 210              | L 35 | # 256 |
| Graber, Steffen |                           | Pepperl+Fuchs GmbH |      |       |

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

[AN PREAMBLE] The page is preceded by a unique Start Delimiter consisting of a  $26 \times T1$  sequence that includes multiple DME transition violations. For a Start Delimiter starting with a 0 to +1 transition, the bit sequence is: +1 -1 +1 +1 -1 -1 +1 -1 -1 -1 +1 -1 +1 -1 -1 -1 +1 +1 -1 -1 -1 +1 -1 +1.

*SuggestedRemedy*

The page is preceded by a unique Start Delimiter consisting of a  $26 \times T_1$  sequence that includes multiple DME transition violations. For a Start Delimiter starting with a 0 to +1 transition, the bit sequence for high speed Auto-Negotiation mode is: +1 -1 +1 +1 -1 -1 +1 -1 -1 -1 +1 -1 +1 -1 -1 -1 -1 -1 +1 +1 -1 -1 +1 -1 +1. For a Start Delimiter starting with a 0 to +1 transition, the bit sequence for low speed Auto-Negotiation mode is: +1 -1 +1 -1 +1 -1 +1 -1 +1 +1 -1 -1 +1 +1 -1 +1 -1 +1 -1 -1 +1 -1 -1.

(for background information see also presentation "Auto-Negotiation Start Delimiter")

| <i>Proposed Response</i> | <i>Response Status</i> | <b>W</b> |
|--------------------------|------------------------|----------|
|--------------------------|------------------------|----------|

PROPOSED ACCEPT IN PRINCIPLE.

Task Force to Discuss.

Task Force to consider presentation and decide. If new start delimiter is accepted, make change, otherwise remain with the existing text.

|              |           |       |      |      |
|--------------|-----------|-------|------|------|
| CI 98        | SC 98.5.2 | P 62  | L 17 | # 59 |
| Anslow, Pete |           | Ciena |      |      |

| Comment Type | E | Comment Status | D | EZ |
|--------------|---|----------------|---|----|
|--------------|---|----------------|---|----|

According to the rules set out in:  
[http://www.ieee802.org/3/WG\\_tools/editorial/requirements/words.html#numbers](http://www.ieee802.org/3/WG_tools/editorial/requirements/words.html#numbers)  
 "In text, where this improves clarity, follow the IEEE Editorial Style Manual: Use spaces instead of commas between numbers in tens or hundreds of thousands (e.g., 62 000, 100 000, but 4000)."

*SuggestedRemedy*

For the numbers with 5 digits or more in the definitions of :

```
"backoff_timer_[LSM]"
"blind_timer_[LSM]"
"page_test_max_timer_[LSM]"
"receive_DME_timer_[LSM]"
"silent_timer_[LSM]"
```

Add an underlined space as a thousands separator. (16 instances in total).

| Proposed Response | Response Status | W |
|-------------------|-----------------|---|
|-------------------|-----------------|---|

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 98 SC 98.5.5 P 64 L 6 # 5  
Hajduczenia, Marek Charter

Comment Type ER Comment Status D EZ

Unclear set of changes to Figure 98-7, Figure 98-8, Figure 98-9, and Figure 98-10

## SuggestedRemedy

Figure is being wholesale replaced; it would be great to have a hint what has been changed - either describe it in the editorial instruction / note, or alternatively draw a red box around what has been changed.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Jon Lewis to use a note/editorial instruction to identify the changes that have been made to Figure 98-7, Figure 98-8, Figure 98-9, and Figure 98-10.

CI 98 SC 98.5.5 P 64 L 6 # 4  
Hajduczenia, Marek Charter

Comment Type E Comment Status D EZ

Extra symbol in transition between ABILITY DETECT and TRANSMIT DISABLE states

## SuggestedRemedy

Remove reference symbol  
Similar changes needed in Figure 98-8, Figure 98-9, and Figure 98-10 (seems like change bars were enabled?)

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Delete extraneous symbol that looks like a vertical bar in figures on,

page 64, line 6  
page 65, line 33  
page 65, line 38  
page 66, line 12  
page 66, line 17  
page 66, line 23  
page 66, line 25  
page 67, line 12  
page 67, line 17  
page 67, line 22  
page 67, line 29

CI 98 SC 98.5.5 P 64 L 25 # 345  
Yseboodt, Lennart Signify

Comment Type TR Comment Status D EZ

In Figure 98-7, transition from COMPLETE ACKNOWLEDGE to NEXT PAGE WAIT, is missing a closing paren at the end.

## SuggestedRemedy

Replace arc logic as follows:

"ack\_finished = true \* mr\_next\_page\_loaded = true \* ((tx\_link\_code\_word[NP] = 1) + (np\_rx = 1))"

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 98 SC 98.5.6 P 67 L 49 # 346  
Yseboodt, Lennart Signify

Comment Type TR Comment Status D AutoNeg

"This state machine shall be implemented as top level state machine of the Auto-Negotiation process."

What is a top level state machine ? This is untestable.  
Each requirement must have an observable effect at the MDI.

## SuggestedRemedy

Strike sentence or re-write to indicate what is meant.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Replace, "This state machine shall be implemented as top level state machine of the Auto-Negotiation process."

with, "This state machine operates at the top level of the Auto-Negotiation process, controlling the selection of high-speed mode and low-speed mode, and therefore the parameters used in Figures 98-7, 98-8, and 98-9."

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 98 SC 98.5.6 P 68 L 2 # 60  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

In the text "A PHY supporting only one Auto-Negotiation speed shall implement the behavior as shown in Figure 98-7, Figure 98-8, Figure 98-9, and Figure 98-10 without any further modification, using the associated timer values .", the phrase "without any further modification" does not belong.  
A PHY supporting two different Auto-Negotiation speeds implements Figure 98-11.  
A PHY supporting only one Auto-Negotiation speed implements Figure 98-8, Figure 98-9, and Figure 98-10.  
There is no modification involved.

## SuggestedRemedy

Delete "without any further modification,"

Proposed Response Response Status W  
PROPOSED ACCEPT.

CI 98 SC 98.5.6 P 68 L 5 # 597  
Lapak, Jeffrey UNH-IOL

Comment Type T Comment Status D AutoNeg

There appears to be an error in the State Diagram "Figure 98-11 - Auto-Negotiation - high speed mode and low speed mode selection"

The intent of this diagram appears to be a method for switching between high speed and low speed mode detection based on the "failure\_timer", however there is no transition from the "LOW SPEED AN" state back to the "SPEED DETECTION" state to enable this functionality. This appears to be an error in the diagram generation as the "AN COMPLETE" state has two exit conditions on the onlu transition (both an\_link\_good = false and failure\_timer expired).

## SuggestedRemedy

Add a transition arrow from "LOW SPEED AN" state back to the "SPEED DETECTION" with the exit condition "failure\_timer expired" and remove the extra exit condition from the exit to "AN COMPLETE".

Proposed Response Response Status W  
PROPOSED ACCEPT.

Master comment 597. Consider with 61 and 718.

CI 98 SC 98.5.6 P 68 L 6 # 147  
Lewis, Jon Dell EMC

Comment Type E Comment Status D EZ

Arrows in state diagram should be the same.

## SuggestedRemedy

Change Arrows at the top of the state diagram where the 3 inputs are going into the "SPEED\_DETECTION" state to be the same format as the other Arrows in the diagram.

Proposed Response Response Status W  
PROPOSED ACCEPT.

CI 98 SC 98.5.6 P 68 L 7 # 61  
Anslow, Pete Ciena

Comment Type T Comment Status D AutoNeg

In Figure 98-11, the transition from the AN COMPLETE state to the SPEED DETECTION state is labelled in two places: at the bottom "an\_link\_good = FALSE" and at the top "failure\_timer expired".  
Since the AN COMPLETE state includes "stop failure\_timer", the top label seems to be incorrect.

## SuggestedRemedy

Delete the label "failure\_timer expired" from the top right of the diagram.

Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.

Master comment 597. Consider with 597 and 718.

Add a transition arrow from "LOW SPEED AN" state back to the "SPEED DETECTION" with the exit condition "failure\_timer expired" and remove the extra exit condition from the exit to "AN COMPLETE".

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 98 SC 98.5.6 P 68 L 8 # 718  
McClellan, Brett Marvell

Comment Type T Comment Status D AutoNeg

transition from AN COMPLETE to SPEED DETECTION has two separate qualifier listed:  
"failure\_timer expired" and "an\_link\_good = FALSE". Which one is correct?

## SuggestedRemedy

Delete "failure\_timer expired"

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Master comment 597. Consider with 597 and 61.

Add a transition arrow from "LOW SPEED AN" state back to the "SPEED DETECTION" with the exit condition "failure\_timer expired" and remove the extra exit condition from the exit to "AN COMPLETE".

CI 98 SC 98.5.6 P 68 L 13 # 725  
McClellan, Brett Marvell

Comment Type TR Comment Status D AutoNeg

variable mr\_main\_reset is already defined in 802.3bp to be sourced from 7.512.15 AN reset. A state machine cannot assign a different value to this variable.

## SuggestedRemedy

Create a new variable that may be assigned based on this state machine and may be used in combination with mr\_main\_reset.

Proposed Response Response Status W

PROPOSED REJECT.

mr\_main\_reset is not tied to the register, but the register can set it. 98.5.1 in IEEE Std 802.3-2018 defines mr\_main\_reset simply as:

mr\_main\_reset

Controls the resetting of the Auto-Negotiation state diagrams.

Values:

false: do not reset the Auto-Negotiation state diagrams

true: reset the Auto-Negotiation state diagrams

CI 98 SC 98.5.6.1 P 68 L 42 # 726  
McClellan, Brett Marvell

Comment Type TR Comment Status D AutoNeg

If autoneg\_reset is a management controlled variable then it should be renamed mr\_autoneg\_reset with an entry in table 98-7 showing which management register bit drives this variable.

State machines take precedence over text and a text description cannot modify the behavior of a state machine. This paragraph appears to try to modify the behavior of defined variables and state machines.

## SuggestedRemedy

rename autoneg\_reset to mr\_autoneg\_reset with an entry in table 98-7 showing which management register bit drives this variable.

delete "If only single speed Auto-Negotiation is implemented, variable mr\_main\_reset has to be used instead as described in 98.5.1."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Rename autoneg\_reset to mr\_autoneg\_reset with an entry in table 98-7 showing which management register bit drives this variable.

Replace "If only single speed Auto-Negotiation is implemented, variable mr\_main\_reset has to be used instead as described in 98.5.1." with "Note - if only single speed Auto-Negotiation is implemented, then, since Figure 98-11 is not used, and mr\_main\_reset is used as described in 98.5.1."

CI 98 SC 98.5.6.2 P 69 L 17 # 182  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type T Comment Status D AutoNeg

[AN PREAMBLE] 3600 ns

## SuggestedRemedy

Change to 2000 ns, if the proposed new start delimiter for the "low speed" auto-negotiation is being accepted by the group. The new SD, has a maximum nominal pulse duration of 1600 ns + up to 400 ns tolerance, so at maximum 2000 ns). See also presentation "Auto-Negotiation Start Delimiter".

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Task Force to Discuss.

Task Force to consider presentation and decide. If new start delimiter is accepted, make change, otherwise remain with the existing text.



# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 98 SC 98.5.6.3 P 69 L 28 # 63  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

Incorrect multiply symbol used

## SuggestedRemedy

replace with correct multiply symbol (Ctrl-q 0)

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 98 SC 98.6.2a P 70 L 6 # 64  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

Space missing from Autonumber format. "98.6.2aMajor" should be "98.6.2a Major"

## SuggestedRemedy

Fix Autonumber format.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Confirm that a space can be inserted between "98.6.2a" and "Major" and insert space if possible.

CI 98 SC 98.6.2a P 70 L 11 # 65  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

The convention for PICS items is that when another item depends on whether or not this item is supported, its name is preceded by a "\*".

## SuggestedRemedy

In the table in 98.6.2a, change:

"ANSM" to "\*ANSM"

"HSM" to "\*HSM"

"LSM" to "\*LSM"

"10T1L" to "\*10T1L"

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 98 SC 98.6.3 P 70 L 31 # 66  
Anslow, Pete Ciena

Comment Type E Comment Status D PICS

The PICS proforma tables in 98.6.3 do not have the appropriate entries in the "Support" column.

Same issue in 146.11.4.1.3, 146.11.4.2.1, 146.11.4.2.2, 146.11.4.3, 148.5.4.1, 148.5.4.2, and 148.5.4.3.

## SuggestedRemedy

In 98.6.3, 146.11.4.1.3, 146.11.4.2.1, 146.11.4.2.2, 146.11.4.3, 148.5.4.1, 148.5.4.2, and 148.5.4.3 for items with status of:

"M" change the Support entry to "Yes [ ]"

"O" change the Support entry to "Yes [ ] No [ ]"

"Something:M" change the Support entry to "Yes [ ] N/A [ ]"

"Something:O" change the Support entry to "Yes [ ] No [ ] N/A [ ]"

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 98 SC 98.6.8 P 71 L 36 # 67  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

According to the rules set out in:

[http://www.ieee802.org/3/WG\\_tools/editorial/requirements/words.html#numbers](http://www.ieee802.org/3/WG_tools/editorial/requirements/words.html#numbers)

"In text, where this improves clarity, follow the IEEE Editorial Style Manual: Use spaces instead of commas between numbers in tens or hundreds of thousands (e.g., 62 000, 100 000, but 4000)."

Despite these being table entries, they are in the form of text , so it seems appropriate to use this version of the rule.

## SuggestedRemedy

In item SD4a, SD12a, SD13a, and SDE15A add a non-breaking space (Ctrl space) as a thousands separator in all numbers above 9999.

Proposed Response Response Status W

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 98 SC 98.6.8 P 72 L 39 # 68  
 Anslow, Pete Ciena  
 Comment Type E Comment Status D EZ  
 Item "SDE15a" should be "SD15a"  
 SuggestedRemedy  
 Change "SDE15a" to "SD15a"  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 98 SC 98B.3 P 197 L 11 # 128  
 Anslow, Pete Ciena  
 Comment Type E Comment Status D EZ  
 While the editing instruction for Table 98B-1 and the lack of underlining for the inserted rows is technically correct (except that it is not stated where the insertion should be), the result is rather confusing.  
 SuggestedRemedy  
 Change the editing instruction to:  
 "Change the row for "A3 through A26" in Table 98B-1 as follows (unchanged rows not shown):  
 Underline the new rows.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 98 SC 98B.3 P 197 L 15 # 7  
 Hajduczenia, Marek Charter  
 Comment Type E Comment Status D EZ  
 Table 98B-1 should show rows A3-A25 and associated values are inserted i.e., with underline - this is new content  
 SuggestedRemedy  
 Per comment.  
 Proposed Response Response Status W  
 PROPOSED REJECT.  
 Underline annotations are not shown for insert instructions. The only changed row is the original "A3 to A26" row and change marks are shown appropriately.

CI 98 SC 98B.3 P 197 L 21 # 446  
 Wienckowski, Natalie General Motors  
 Comment Type T Comment Status D Registers  
 Why do we keep leaving "Reserved" bits between the PHY ability bits? 802.3ch will be adding another 3 types. This will actually take up 6 more bits if we continue to follow this process.  
 SuggestedRemedy  
 Move 10BASE-T1L ability to A3.  
 Move 10BASE-T1S ability to A4.  
 Alternatively, the reserved bit of A1 could be used and these could use A1 and A3.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Insert rows for A1 Reserved and A2 1000BASE-T1 ability after the "." row in Table 98B-1.  
 Strikethrough "Reserved" in the A1 row and replace with "10BASE-T1S" in underline.  
 Change "A7 through A19" Reserved to "A3 through A8 Reserved"  
 Insert row "A9 10BASE-T1L"  
 Insert row "A10 through A19 Reserved"  
 Change editing instruction to include change to bit A1.

CI 98 SC 98B.3 P 197 L 48 # 722  
 McClellan, Brett Marvell  
 Comment Type TR Comment Status D AutoNeg  
 full duplex and half duplex advertisement should be tied to a specific technology, e.g. 10GBASE-T1L full duplex ability  
 SuggestedRemedy  
 Change the bit names and definition to indicate which PHY technology is advertising full duplex.  
 e.g.  
 10BASE-T1L Full duplex ability advertisement  
 10BASE-T1S Full duplex ability advertisement  
 10BASE-T1S Half duplex ability advertisement  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 98 SC 98B.3 P 198 L 1 # 723  
 McClellan, Brett Marvell

Comment Type TR Comment Status D Big Ticket Item TX Level  
 TX level advertisement should be tied to a specific technology, e.g. 10GBASE-T1L  
 Increased transmit/receive level ability

SuggestedRemedy  
 Change the bit name and definition to indicate which PHY technology is advertising  
 increased transmit/receive level.  
 e.g.  
 10BASE-T1L Increased transmit/receive level ability advertisement

Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.

Master 671. Consider with 671.

Task Force to Discuss.  
 The issue is whether TX level needs to be coordinated between the two PHYs, should be  
 requestable, or should be auto negotiated.

Preference:  
 Delete "Additionally Auto-Negotiation can be used to find a common transmitter output  
 voltage for the two PHYs." Voltage mode does not need to be communicated to the remote  
 PHY for interoperability.  
 (Leave control and status bits for MDIO control as currently specified - AIP comment 723  
 changing bit A24 to Reserved and deleting P198 L 1-4) as per comment 723

Otherwise we need to define autoneg bits and priority for negotiation and resolution of the  
 TX Voltage.

CI 98 SC 98B.3 P 198 L 6 # 724  
 McClellan, Brett Marvell

Comment Type TR Comment Status X  
 EEE advertisement should be tied to a specific technology, e.g. 10GBASE-T1L EEE ability

SuggestedRemedy  
 Change the bit name and definition to indicate which PHY technology is advertising  
 increased transmit/receive level.  
 e.g.  
 10BASE-T1L EEE ability advertisement  
 10BASE-T1S EEE ability advertisement

Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.

In Table 98B-1, replace "Reserved" entry for bit A25 with "10BASE-T1L IEEE ability" and  
 replace "EEE ability" entry for bit A26 with "10BASE-T1S IEEE ability. Show change marks  
 as needed.

Insert the following text for Bit A25 on page 198, line 5: "Bit A25 shall contain a one if the  
 10BASE-T1L PHY is supporting and advertising Energy Efficient Ethernet ability and it  
 shall contain a zero if Energy Efficient Ethernet is not supported or not advertised."

Insert "10GBASE-T1S" before PHY" on page 198, line 6 (text addressing Bit A26).

Delete, "If both PHYs advertise the ability to support Energy Efficient Ethernet during Auto-  
 Negotiation, then EEE shall be enabled for both PHYs by the management entity,  
 otherwise it shall be disabled for both PHYs." on page 198, line 7.

Delete ",," after "if" in two locations on page 198, lines 6 and 7.

CI 98 SC 98B.4 P 198 L 20 # 142  
 Anslow, Pete Ciena

Comment Type E Comment Status D  
 Underline missing from last em-dash

SuggestedRemedy  
 Underline it

Proposed Response Response Status W  
 PROPOSED ACCEPT.

## Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

**Cl 104**    **SC 104**    **P**    **L**    # **155**  
 DiMinico, Christopher    MC Communications

**Comment Type**    **TR**    **Comment Status**    **D**    **EZ**  
 Accepted changes to the draft shown in stewart\_3g\_01f\_0518.pdf slides 7-10 were not implemented. 104.1, 104.3, 104.7,45-340 (802.3-2018).

**SuggestedRemedy**  
 Make changes shown in stewart\_3g\_01f\_0518.pdf slides 7-10, changing table 45-211r reference (from 802.3bu-2016) to 45-340 (802.3-2018), as agreed by Motion #8 in May 2018 (the change on slide 11 was made).

**Proposed Response**    **Response Status**    **W**  
 PROPOSED ACCEPT.

Master comment 155. Resolve with 616, 183, and 585.

**Cl 104**    **SC 104**    **P 73**    **L 1**    # **183**  
 Graber, Steffen    Pepperl+Fuchs GmbH

**Comment Type**    **T**    **Comment Status**    **D**    **EZ**  
 New PoDL definitions as agreed in Pittsburgh are missing.

**SuggestedRemedy**  
 Add changes as described in  
 "http://www.ieee802.org/3/cg/public/May2018/stewart\_3g\_01f\_0518.pdf", pages 7, 8, 9 and 10.

**Proposed Response**    **Response Status**    **W**  
 PROPOSED ACCEPT.

Master comment 155. Resolve with 155, 616, and 585.

**Cl 104**    **SC 104**    **P 73**    **L 1**    # **616**  
 Stover, David    Analog Devices

**Comment Type**    **T**    **Comment Status**    **D**    **EZ**  
 A set of changes against Draft 1.2 was adopted from stewart\_3g\_01f\_0518.pdf. This change set was not fully adopted.

**SuggestedRemedy**  
 Adopt full set of changes outlined in stewart\_3g\_01f\_0518.pdf, slides 7-11, as adopted by motion #8 of motions\_3cg\_01a\_0518.pdf.

**Proposed Response**    **Response Status**    **W**  
 PROPOSED ACCEPT.

Master comment 155. Resolve with 155, 183, and 585.

**Cl 104**    **SC 104**    **P 73**    **L 1**    # **69**  
 Anslow, Pete    Ciena

**Comment Type**    **E**    **Comment Status**    **D**    **EZ**  
 The title of Clause 104 is incorrect.

**SuggestedRemedy**  
 Change the title to: "Power over Data Lines (PoDL) of Single Balanced Twisted-Pair Ethernet"

**Proposed Response**    **Response Status**    **W**  
 PROPOSED REJECT.

"Single-Pair Ethernet" is aligned with the text in bullets 7, 8, and 16 in the project objectives.

**Cl 104**    **SC 104.1.3**    **P 73**    **L 6**    # **465**  
 Jones, Peter    Cisco

**Comment Type**    **TR**    **Comment Status**    **D**    **Power**  
 PoDL is not applicable to multidrop mixing segment

**SuggestedRemedy**  
 Add clarifying statement

**Proposed Response**    **Response Status**    **W**  
 PROPOSED REJECT.

A link segment is defined as a point to point medium between two MDIs. Clause 104.1.3 already says this.

**Cl 104**    **SC 104.1.3**    **P 73**    **L 10**    # **374**  
 Matheus, Kirsten    BMW AG

**Comment Type**    **E**    **Comment Status**    **D**    **Power**  
 The way the paragraph it is written it reads e.g. Type B PSE can be used with Type C PD (for 1000BASE-T1). Is that so? The sentence that begins with A Type C PSD and Type C PD may be compatible with, seems to contain redundant information.

**SuggestedRemedy**  
 As I am not sure what is right, I cannot make a proposal. If Type B PSE cannot be used with Type C PD I would reword the complete paragraph such: A Type A PSD and Type A PD can be used with ... A Type B PSD and Type B PD can be used with ... A Type C PSD and ....

**Proposed Response**    **Response Status**    **W**  
 PROPOSED REJECT.

Editors believe that the commenter's interpretation is correct. This is a comment on legacy, unchanged text and should be addressed through maintenance if it is an issue.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 104 SC 104.1.3 P 73 L 10 # 466  
Jones, Peter Cisco

Comment Type TR Comment Status D Editorial

This text should be table, as text it's close to unreadable

## SuggestedRemedy

Convert this to a table

Proposed Response Response Status W

PROPOSED REJECT.

This is a comment on legacy text, on a characteristic which hasn't been substantively changed. A maintenance request is needed to pursue such a change.

CI 104 SC 104.4.1 P 73 L 23 # 70  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

The comma and space after "Type D" have been added, so should be underlined

## SuggestedRemedy

underline the added comma and space.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 104 SC 104.4.4.1 P 73 L 33 # 71  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

It is Table 104-3 that is being modified

## SuggestedRemedy

Change the table number to Table 104-3

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 104 SC 104.4.4.1 P 73 L 47 # 72  
Anslow, Pete Ciena

Comment Type T Comment Status D EZ

In item 5 of Table 104-3 in the base standard, the unit is "uF" and the maximum value is "2.64".

In the draft, the units has been changed to "nF" and the value for A, B, C, and D changed to "200" without any change marking.

## SuggestedRemedy

Show the unit as "uF" in strikethrough font and "nF" in underline font (where u is the Greek letter mu)

Show the value for A, B, C, and D as "2.64" in strikethrough font and "200" in underline font.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 104 SC 104.4.4.1 P 74 L 13 # 73  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

The width of the "Symbol" column in Table 104-1 is such that two entries wrap across two lines with just "E" on the second line.

## SuggestedRemedy

Increase the width of the "Symbol" column to avoid the wrap.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 104 SC 104.4.6 P 75 L 6 # 74  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

It is Table 104-4 that is being modified

## SuggestedRemedy

Change the table number to Table 104-4.

Proposed Response Response Status W

PROPOSED ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

SORT ORDER: Clause, Subclause, page, line

CI 104  
SC 104.4.6

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8/29/2018 11:25:40 AM

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **104** SC **104.4.6.3** P **75** L **32** # **360**  
Yseboodt, Lennart Signify

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

"A digital oscilloscope or data acquisition module with a differential probe is used to observe the voltage at the MDI/PI of the PSE device under test (DUT) as shown in Figure 104 7."

Dash missing in Figure 104-7.

SuggestedRemedy

Add dash.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **104** SC **104.4.6.3** P **75** L **38** # **75**  
Anslow, Pete Ciena

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

Usual practice in 802.3 is to not have a space between a number and %.

SuggestedRemedy

Change to "± 1%."

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

Replace "± 1%." with "±1%."

CI **104** SC **104.4.6.3** P **75** L **41** # **337**  
Yseboodt, Lennart Signify

Comment Type **ER** Comment Status **D** EZ

Equations 104-1, 104-2, and 104-3 are missing accolades {

SuggestedRemedy

Add accolades and unit where applicable.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

Move omega symbol in equation 104-1 to the end of the equation and enclose in parenthesis.

Editor's note: There are no units for the transfer functions in equations 104-2 and 104-3.

CI **104** SC **104.5.6** P **76** L **36** # **76**  
Anslow, Pete Ciena

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

In Table 104-7, the Additional information entry is shown against Item 1 Types A, B, C, E and Item 2 Types A, B, C but not Type E.

SuggestedRemedy

Assuming that 104.5.6.4 is appropriate for Input voltage dV/dt for Type E, merge the Type E Additional information cell in with the others.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **104** SC **104.5.6** P **76** L **40** # **77**  
Anslow, Pete Ciena

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

In Table 104-7, Item 6b should have "uF" in the Unit column and "All classes" in the Additional information column (as per the base standard).  
Also, the base standard has "All" in the PD type column for Item 6b

SuggestedRemedy

Add "uF" to the Unit cell (where u is the Greek letter mu).

In the upper of the two PD Type cells, show "All" in strikethrough font and "A, B, C, D" in underline font.

Merge the two "Additional information" cells and put "All classes" in the merged cell.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **104** SC **104.5.6.4** P **77** L **8** # **78**  
Anslow, Pete Ciena

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

"Figure 104 9" should be "Figure 104-9"

SuggestedRemedy

Change "Figure 104 9" to "Figure 104-9"

Proposed Response Response Status **W**

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

**CI 104**    **SC 104.5.6.4**    **P 77**    **L 15**    # **79**  
 Anslow, Pete    Ciena  
**Comment Type E**    **Comment Status D**    **EZ**  
 "Clause 146" should be a cross-reference  
**SuggestedRemedy**  
 Make "Clause 146" a cross-reference  
**Proposed Response**    **Response Status W**  
 PROPOSED ACCEPT.

**CI 104**    **SC 104.5.6.4**    **P 77**    **L 29**    # **347**  
 Yseboodt, Lennart    Signify  
**Comment Type TR**    **Comment Status D**    **PoDL**  
 "When measuring the ripple voltages for a Type E PD as specified by Table 104-7 item (3b), the voltage observed at the MDI/PI with the differential probe where  $f_1 = 3.18 \text{ kHz} \pm 1\%$  shall be post-processed with transfer function  $H_2(f)$  specified in Equation (104-3) where  $f_2 = 0.1 \text{ MHz} \pm 1\%$ ."  
 This puts a post-processing requirement on whomever is making the measurement. Requirement must apply at the MDI.  
**SuggestedRemedy**  
 Rewrite requirement to a measurable effect on the MDI or make informative sentence if not possible.  
**Proposed Response**    **Response Status W**  
 PROPOSED REJECT.  
 Language is exactly parallel to the other 3 types of PDs already in IEEE Std 802.3-2018.

**CI 104**    **SC 104.7**    **P 78**    **L 1**    # **585**  
 Stewart, Heath    Analog Devices  
**Comment Type TR**    **Comment Status D**    **EZ**  
 Resistance measurements, as proposed in Pittsburgh, are enabling for long cable reach applications. Resistance measurements allow power recovery for sub-maximum cable lengths in an interoperable manner.  
**SuggestedRemedy**  
 See stewart\_0918\_01.pdf  
**Proposed Response**    **Response Status W**  
 PROPOSED ACCEPT.  
 Master comment 155. Resolve with 155, 616, and 183.

**CI 104**    **SC 104.7.1.3**    **P 79**    **L 41**    # **361**  
 Yseboodt, Lennart    Signify  
**Comment Type E**    **Comment Status D**    **EZ**  
 In the previous Table 104-7 and earlier text the word "Type" (when referring to PSE or PD) was capitalized.  
 In this Table it is not.  
**SuggestedRemedy**  
 Change "type" to Type.  
**Proposed Response**    **Response Status W**  
 PROPOSED ACCEPT.

**CI 104**    **SC 104.7.1.3**    **P 79**    **L 41**    # **80**  
 Anslow, Pete    Ciena  
**Comment Type E**    **Comment Status D**    **EZ**  
 In Table 104-8, the added column heading is "PD type", which is inconsistent with the heading change in Table 104-7  
**SuggestedRemedy**  
 Change to "PD Type"  
**Proposed Response**    **Response Status W**  
 PROPOSED ACCEPT.

**CI 104**    **SC 104.7.1.3**    **P 80**    **L 27**    # **81**  
 Anslow, Pete    Ciena  
**Comment Type E**    **Comment Status D**    **EZ**  
 1.2.6 of the base standard says "Unless otherwise stated, numerical limits in this standard are to be taken as exact, with the number of significant digits and trailing zeros having no significance."  
**SuggestedRemedy**  
 Remove the trailing zeros from the numbers in Table 104-8 (4 numbers)  
**Proposed Response**    **Response Status W**  
 PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 104 SC 104.9 P 82 L 2 # 82  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

In the heading for 104.9, the title of Clause 104 is incorrect.

## SuggestedRemedy

Change:

"Clause 104, Reconciliation Sublayer (RS) and Media Independent Interface (MII)" to:  
"Clause 104, Power over Data Lines (PoDL) of Single Balanced Twisted-Pair Ethernet"

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Replace "Clause 104, Reconciliation Sublayer (RS) and Media Independent Interface (MII)"  
with "Clause 104, Power over Data Lines (PoDL) of Single-Pair Ethernet"

CI 104 SC 104.9.4 P 82 L 25 # 83  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

In the heading for 104.9.4, "ICS" should be "PICS"

## SuggestedRemedy

In the heading for 104.9.4, change "ICS" to "PICS"

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 104 SC 104.9.4 P 82 L 26 # 429  
Wienckowski, Natalie General Motors

Comment Type E Comment Status D EZ

still have twisted-pair

## SuggestedRemedy

Change "single balanced twisted-pair" to "single balanced pair of conductors".

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 104 SC 104.9.4.3 P 82 L 42 # 84  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

"Clause 146" should be a cross-reference

## SuggestedRemedy

Make "Clause 146" a cross-reference

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 146 SC 146 P 85 L 1 # 338  
Yseboodt, Lennart Signify

Comment Type ER Comment Status D Big Ticket Item Editorial

Equations in Clause 146 and 147 do not have a consistent formatting.  
Some do not list a unit. Other do list the unit, something in parens, sometimes not.  
Accolades are sometimes used, sometimes not.  
Some have a "where" clause that defines the parameters used, some do not.

## SuggestedRemedy

Consult with Pete Anslow and apply consistent formatting of ALL equations.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Equations for different types of parameters have different formatting in IEEE Std 802.3.  
Add right hand accolade (}) to multi-line equations in 146.7. other than that, clause 146  
and clause 147 equations are formatted consistently with 802.3 style in other similar PHY  
clauses for similar parameters.

CI 146 SC 146 P 85 L 2 # 85  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

The heading for Clause 146 has an inappropriate footnote related to PICS proformas.

## SuggestedRemedy

Remove the footnote

Proposed Response Response Status W

PROPOSED ACCEPT.



# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 146 SC 146 P 85 L 53 # 467  
Jones, Peter Cisco

Comment Type E Comment Status D EZ

I don't see the note about PICS proforma copyright release in other 802.3 standards, why is it needed

SuggestedRemedy

Remove

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Implemented by comment i-85.

CI 146 SC 146 P 94 L 0 # 390  
Jones, Chad Cisco

Comment Type ER Comment Status D Big Ticket Item Editorial

I got sick of typing up every instance of missing or extra comma. I marked up the draft starting at page 94. It is attached. Also, as the review went on, added other minor editorial fixes other than commas.

SuggestedRemedy

perform changes as shown in submitted PDF markup: "8023cg\_D2p0-cjones-markup.pdf"

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 146 SC 146.1 P 85 L 8 # 379  
Jones, Chad Cisco

Comment Type E Comment Status D Editorial

superfluous comma. "Together, the PCS, and PMA sublayers comprise a 10BASE-T1L Physical Layer (PHY)."

SuggestedRemedy

delete the second comma.

CHANGE TO: "Together, the PCS and PMA sublayers comprise a 10BASE-T1L Physical Layer (PHY)."

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 146 SC 146.1 P 85 L 8 # 667  
Donahue, Curtis UNH-IOL

Comment Type E Comment Status D Editorial

Unnecessary comma.

SuggestedRemedy

Change from "Together, the PCS, and PMA sublayers" to "Together, the PCS and PMA sublayers"

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Implemented by comment i-379

CI 146 SC 146.1 P 85 L 9 # 86  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

The text: "Provided in this clause are fully functional and electrical specifications for ..." doesn't make sense.

SuggestedRemedy

Change to: "Provided in this clause are functional and electrical specifications for ...".

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 146 SC 146.1 P 85 L 12 # 87  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

"10BASE-T1L" should not be split across two lines.  
Same issue in 146.7.2.2

SuggestedRemedy

Replace the hyphen with a non-breaking hyphen (Esc, -, h) (three key presses)  
Make the same change in 146.7.2.2 (page 132, line 13)

Proposed Response Response Status W

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 146 SC 146.1 P 135 L 8 # 487  
Jones, Peter Cisco

Comment Type TR Comment Status D Delay

Add PAUSE reaction times.Add cable delay info - from 802.3bz 126.11  
NOTE-The physical medium interconnecting two PHYs introduces additional delay in a link.  
Equation (80-1) specifies .

## SuggestedRemedy

Make suggested changes

Proposed Response Response Status W

PROPOSED REJECT.  
See comments 450 and 487 - PAUSE functionality in clause 31B is handled differently for speeds of 100 Mbps or less.

CI 146 SC 146.1.2 P 85 L 34 # 668  
Donahue, Curtis UNH-IOL

Comment Type E Comment Status D EZ

Clause 146 uses the term "single balanced pair of conductors" a lot, but there are some instances where "single balanced pair cabling" is used. Suggest scrubbing the Clause and being consistent.

## SuggestedRemedy

Change instances of "single balanced pair cabling" to "single balanced pair of conductors"

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 146 SC 146.1.2 P 85 L 37 # 88  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

"3 level" should be "3-level" when used as a compound adjective

## SuggestedRemedy

Change "3 level" to "3-level"

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 146 SC 146.1.2 P 86 L 19 # 436  
Wienckowski, Natalie General Motors

Comment Type T Comment Status D EZ

The MDI is not part of the PHY and should not be shaded in Figure 146-1.

## SuggestedRemedy

Remove shading on MDI "box" in Figure 146-1.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 146 SC 146.1.2 P 86 L 30 # 560  
D'Ambrosia, John Futurewei, Subsidiary

Comment Type E Comment Status D Editorial

Consider adding a table that maps the different functions in the stack to the respective clauses which then notes whether the respective clause is optional or mandatory. This greatly helps the reader.

## SuggestedRemedy

Reference Table 116-3 as example

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Adding a table was considered, but there are only 2 phys here, and each have the PCS, PMA and PMD specified in a single clause as opposed to the optical PHYs which often have these tables. There are many older 10 Mbps PHYs, but they are out of scope of this project, a maintenance request might be an approach to that. Adding a table might be useful for the entire BASE-T1 family, but is beyond the scope of this project, as it would impact other speeds.

CI 146 SC 146.1.2 P 86 L 34 # 437  
Wienckowski, Natalie General Motors

Comment Type E Comment Status D EZ

missing period

## SuggestedRemedy

Add period at end of last sentence in the paragraph.

Proposed Response Response Status W

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 146 SC 146.1.2 P 86 L 36 # 721  
McClellan, Brett Marvell

Comment Type TR Comment Status D AutoNeg

page 86 states "A 10BASE-T1L PHY may optionally support Energy-Efficient Ethernet (see Clause 78) and advertise the  
EEE capability during Auto-Negotiation as described in Annex 98B.3."  
Therefore EEE support is negotiated and supported only when both sides advertise EEE  
ability.  
EEE advertisement bit should be placed in new 10BASE-T1 AN control 1 register at 7.526

## SuggestedRemedy

Advertisement and status registers for 10BASE-T1L and 10BASE-T1S should be placed in  
MMD7.  
I suggest defining 10BASE-T1 AN control 1 register at 7.526 with the following bits defined:  
10BASE-T1L Full duplex ability advertisement  
10BASE-T1L EEE advertisement  
10BASE-T1L Increased transmit/receive level ability advertisement  
10BASE-T1S Full duplex ability advertisement  
10BASE-T1S Half duplex ability advertisement  
PLCA ability advertisement  
PLCA coordinator ability advertisement

I suggest defining 10BASE-T1 AN status 1 registers at 7.527 with the following bits defined:  
10BASE-T1L Link partner Full duplex ability advertisement  
10BASE-T1L Link partner EEE advertisement  
10BASE-T1L Link partner Increased transmit/receive level ability advertisement  
10BASE-T1S Link partner Full duplex ability advertisement  
10BASE-T1S Link partner Half duplex ability advertisement  
Link partner PLCA ability advertisement  
Link partner PLCA coordinator ability advertisement

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 146 SC 146.1.2 P 86 L 36 # 339  
Yseboodt, Lennart Signify

Comment Type ER Comment Status D Big Ticket Item Editorial

"A 10BASE-T1L PHY may optionally support Energy-Efficient Ethernet (see Clause 78)  
and advertise the EEE capability during Auto-Negotiation as described in Annex 98B.3."

'may optionally' is equivalent to 'may'.

## SuggestedRemedy

"A 10BASE-T1L PHY may support Energy-Efficient Ethernet (see Clause 78) and advertise  
the EEE capability during Auto-Negotiation as described in Annex 98B.3."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Change "A 10BASE-T1L PHY may optionally support Energy-Efficient Ethernet (see  
Clause 78) and advertise the EEE capability during Auto-Negotiation as described in Annex  
98B.3." to "A 10BASE-T1L PHY optionally supports Energy-Efficient Ethernet (see Clause  
78) and advertises the EEE capability during Auto-Negotiation as described in Annex  
98B.3.". "may" translates to "is permitted to" and is used for unspecified, permitted  
operation. In this context, "may optionally" conveys something different - a specified  
optional functionality which is permitted.

CI 146 SC 146.1.2 P 86 L 40 # 348  
Yseboodt, Lennart Signify

Comment Type TR Comment Status D AutoNeg

"A 10BASE-T1L PHY shall be capable of operating as MASTER or SLAVE, per runtime  
configuration."

Is the intention here that a PHY supports both and this can be configured through runtime ?  
Or does it get to pick one and not support the other ?

## SuggestedRemedy

Option1: "A 10BASE-T1L PHY shall be capable of operating both as MASTER or SLAVE,  
with one mode active per runtime configuration."

Option2: "A 10BASE-T1L PHY shall be capable of operating as either MASTER or SLAVE."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
resolved by comment 318 (duplicate)

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 146 SC 146.1.2 P 86 L 40 # 318  
Wendt, Matthias Signify

Comment Type TR Comment Status D AutoNeg

"A 10BASE-T1L PHY shall be capable of operating as MASTER or SLAVE, per runtime configuration."

Is the intention here that a PHY supports both and this can be configured through runtime ? Or does it get to pick one and not support the other ?

## SuggestedRemedy

Option1: "A 10BASE-T1L PHY shall be capable of operating both as MASTER or SLAVE, with one mode active per runtime configuration."

Option2: "A 10BASE-T1L PHY shall be capable of operating as either MASTER or SLAVE."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

(Option 1 is what is meant) this is a duplicate shall. The actual requirement is in 146.4.2

"When the config parameter is set to MASTER, the PMA Transmit function derives the TX\_TCLK from a local clock source. When the config parameter is set to SLAVE, the PMA

Transmit function derives the TX\_TCLK from the recovered clock." (this is what is done in other BASE-T clauses). Change "shall be capable of operating as MASTER or SLAVE, per runtime configuration." to "is capable of operating both as MASTER or SLAVE, with one mode active as determined according to 146.6.1.

CI 146 SC 146.1.2 P 86 L 48 # 717  
McClellan, Brett Marvell

Comment Type E Comment Status D EZ

paragraph is redundant to line 36.

## SuggestedRemedy

Delete the paragraph

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

implemented by comment 381 (duplicate) - resolution was: delete paragraph at Page 86 Line 48: "A 10BASE-T1L PHY optionally supports Energy-Efficient Ethernet (see Clause 78). The EEE capability is a mechanism by which 10BASE-T1L PHYs are able to reduce power consumption during periods of low link utilization."

CI 146 SC 146.1.2 P 86 L 48 # 19  
Lusted, Kent Intel

Comment Type ER Comment Status D EZ

The paragraph starting on P86 line 48 is almost identical to the paragraph starting on Page 86 line 36. It may be a duplicate since both reference 10BASE-T1L PHY and optional EEE support.

## SuggestedRemedy

Consider removing one of the 2 paragraphs cited above.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

implemented by comment 381 (duplicate) - resolution was: delete

CI 146 SC 146.1.2 P 86 L 48 # 669  
Donahue, Curtis UNH-IOL

Comment Type E Comment Status D EZ

The paragraph starting on line 48 has nearly the same content as the paragraph starting on line 36. Suggest removing the paragraph on line 48.

## SuggestedRemedy

Remove text from line 48 to 50.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

implemented by comment 381 (duplicate) - resolution was: delete paragraph at Page 86 Line 48: "A 10BASE-T1L PHY optionally supports Energy-Efficient Ethernet (see Clause 78). The EEE capability is a mechanism by which 10BASE-T1L PHYs are able to reduce power consumption during periods of low link utilization."

CI 146 SC 146.1.2 P 86 L 48 # 381  
Jones, Chad Cisco

Comment Type ER Comment Status D EZ

Text in this paragraph is a repeat of the paragraph at line 36. Delete this redundant paragraph.

## SuggestedRemedy

delete paragraph at Page 86 Line 48: "A 10BASE-T1L PHY optionally supports Energy-Efficient Ethernet (see Clause 78). The EEE capability is a mechanism by which 10BASE-T1L PHYs are able to reduce power consumption during periods of low link utilization."

Proposed Response Response Status W

PROPOSED ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

SORT ORDER: Clause, Subclause, page, line

CI 146  
SC 146.1.2

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8/29/2018 11:25:40 AM

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

Cl **146** SC **146.1.2.1** P **87** L **3** # **712**  
 Kabra, Lokesh Synopsys Inc  
 Comment Type **E** Comment Status **D** EZ  
 Overview paragraph structure/content different from other similar PCS sections in standard  
 SuggestedRemedy  
 Change to "The 10BASE-T1L PCS couples a Media Independent Interface (MII), as described in Clause 22, to the 10BASE-T1L Physical Medium Attachment (PMA) sublayer"  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

Cl **146** SC **146.1.2.2** P **85** L **6** # **559**  
 D'Ambrosia, John Futurewei, Subsidiary  
 Comment Type **TR** Comment Status **D** Big Ticket Item AutoNeg  
 This is the first mention of 1000 m - over a single balanced pair of conductors up to 1000 m in length. There are different insertion losses for the two operating voltage modes, but the 2.4V p-p appears optional (commenter unable to find that specific text - just that it may support 2.4v or not). Autonegotiation is also noted as being optional. Optional insertion losses / operating modes / AN are a recipe for interoperability problems.  
 SuggestedRemedy  
 Two potential solutions - 1) Consider spitting the 10BASE-T1L into two PHYs, where an implementation might support either. 2) Make AN mandatory.  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Controversial TFTD (Add informative text describing how this will work)

Cl **146** SC **146.1.2.2** P **87** L **8** # **713**  
 Kabra, Lokesh Synopsys Inc  
 Comment Type **E** Comment Status **D** EZ  
 First line structure/content different from other similar PMA sections in standard  
 SuggestedRemedy  
 Change to "The 10BASE-T1L PMA couples messages from the PCS service interface onto a single balanced pair of conductors and supports the link management and the 10BASE-T1L PHY Control function."  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

Cl **146** SC **146.1.2.2** P **87** L **10** # **468**  
 Jones, Peter Cisco  
 Comment Type **E** Comment Status **D** EZ  
 Strike out "at 7.5 MBd"  
 SuggestedRemedy  
 Make suggested change  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

Cl **146** SC **146.1.2.3** P **87** L **14** # **340**  
 Yseboodt, Lennart Signify  
 Comment Type **ER** Comment Status **D** Big Ticket Item Editorial  
 "A 10BASE-T1L PHY may optionally support the EEE capability, as described in 78.3."  
 'may optionally' is equivalent to 'may'.  
 SuggestedRemedy  
 "A 10BASE-T1L PHY may support the EEE capability, as described in 78.3."  
 Proposed Response Response Status **W**  
 PROPOSED REJECT.  
 In this case, the language is to call out a specified option, and "may optionally" is the language used in other PHY clauses in IEEE Std 802.3-2018 for support of optional EEE in clauses 40, 55, 97, 113, and 126. "may support" is only used once for EEE and not in a PHY clause.

Cl **146** SC **146.1.2.3** P **87** L **21** # **382**  
 Jones, Chad Cisco  
 Comment Type **E** Comment Status **D** EZ  
 missing comma "In the transmit direction the transition to the LPI transmit mode begins when the PCS transmit function"  
 SuggestedRemedy  
 CHANGE TO: "In the transmit direction, the transition to the LPI transmit mode begins when the PCS transmit function"  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.1.2.3** P **87** L **27** # **383**  
 Jones, Chad Cisco  
 Comment Type **E** Comment Status **D** EZ  
 missing comma: "Periodically the transmit function of the local"  
 SuggestedRemedy  
 CHANGE TO: "Periodically, the transmit function of the local"  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

CI **146** SC **146.1.2.3** P **87** L **30** # **384**  
 Jones, Chad Cisco  
 Comment Type **ER** Comment Status **D** EZ  
 Please translate to English: "The PHY is now starting to transmit an IDLE symbol stream, where loc\_lpi\_req is de-asserted, thus indicating to the remote PHY, that this PHY is going back to normal transmit mode again."  
 SuggestedRemedy  
 CHANGE TO: "The PHY transmits an IDLE symbol stream with loc\_lpi\_req is de-asserted, indicating to the remote PHY that the local PHY is back to normal transmit mode."  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

CI **146** SC **146.1.3** P **88** L **4** # **438**  
 Wienckowski, Natalie General Motors  
 Comment Type **E** Comment Status **D** EZ  
 poor wording, remove "a" in front of "descriptive text"  
 SuggestedRemedy  
 Change: discrepancy between a state diagram and a descriptive text  
 To: discrepancy between a state diagram and descriptive text  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

CI **146** SC **146.2** P **89** L **2** # **148**  
 Lewis, Jon Dell EMC  
 Comment Type **E** Comment Status **D** EZ  
 Align arrows and lines between the PCS block and the PMA block with the blocks themselves.  
 SuggestedRemedy  
 Align arrow PMA\_RXSTATUS.indication with the PCS block; Align arrow PMA\_RX\_LPI\_STATUS.request with the PMA block  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

CI **146** SC **146.2** P **89** L **5** # **367**  
 Matheus, Kirsten BMW AG  
 Comment Type **ER** Comment Status **D** EZ  
 MDIO arrow needs to go in both directions.  
 SuggestedRemedy  
 Edit picture accordingly  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

CI **146** SC **146.2.3** P **90** L **51** # **385**  
 Jones, Chad Cisco  
 Comment Type **E** Comment Status **D** EZ  
 fix the grammar: "The transmitter in a 10BASE-T1L link normally sends over the MDI symbols that represent a MII data stream with framing, scrambling and encoding of data, control information, or idles."  
 SuggestedRemedy  
 CHANGE TO: "The transmitter in a 10BASE-T1L link normally sends symbols over the MDI that represent an MII data stream with framing, scrambling and encoding of data, control information, or idles."  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.2.3.1** P **91** L **5** # **386**  
Jones, Chad Cisco

Comment Type **ER** Comment Status **D** EZ

missing commas: "The PMA\_TXMODE.indication specifies to PCS Transmit via the parameter tx\_mode what sequence of symbols the PCS should be transmitting."

## SuggestedRemedy

CHANGE TO: "The PMA\_TXMODE.indication specifies to PCS Transmit, via the parameter tx\_mode, what sequence of symbols the PCS should be transmitting."

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **146** SC **146.2.4.1** P **91** L **35** # **387**  
Jones, Chad Cisco

Comment Type **ER** Comment Status **D** EZ

missing commas: "During reception the PMA\_UNITDATA.indication conveys to the PCS via the parameter rx\_symb\_vector the value of symbols detected on the MDI during each cycle of the recovered clock."

## SuggestedRemedy

CHANGE TO: "During reception, the PMA\_UNITDATA.indication conveys to the PCS, via the parameter rx\_symb\_vector, the value of symbols detected on the MDI during each cycle of the recovered clock."

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **146** SC **146.2.5.1** P **92** L **5** # **388**  
Jones, Chad Cisco

Comment Type **ER** Comment Status **D** EZ

missing commas: "During transmission, the PMA\_UNITDATA.request simultaneously conveys to the PMA via the parameter tx\_symb\_vector the value of the symbols to be sent over the MDI."

## SuggestedRemedy

CHANGE TO: "During transmission, the PMA\_UNITDATA.request simultaneously conveys to the PMA, via the parameter tx\_symb\_vector, the value of the symbols to be sent over the MDI."

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **146** SC **146.2.6.3** P **92** L **44** # **184**  
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] . Figure 146-8, and Figure 146-15.

## SuggestedRemedy

. Figure 146-8, Figure 146-14, and Figure 146-15. (Reference to Figure 146-14 is missing).

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **146** SC **146.2.7** P **92** L **51** # **389**  
Jones, Chad Cisco

Comment Type **ER** Comment Status **D** EZ

typo, extra unintentional character: "operation o of "

## SuggestedRemedy

delete the 'o'

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **146** SC **146.2.7** P **92** L **51** # **439**  
Wienckowski, Natalie General Motors

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

extraneous "o"

## SuggestedRemedy

Change: whether reliable operation o of the  
To: whether reliable operation of the

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **146** SC **146.2.7** P **92** L **52** # **185**  
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] . operations o of the .

## SuggestedRemedy

. operations of the . ("o" too much)

Proposed Response Response Status **W**

PROPOSED ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

SORT ORDER: Clause, Subclause, page, line

CI **146**  
SC **146.2.7**

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8/29/2018 11:25:40 AM

## Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.3** P **96** L **6** # **579**  
Fitzgerald, Niall Acuitas Silicon

Comment Type **T** Comment Status **D** Big Ticket Item **EEE**

Figure 146-3 - PCS reference diagram shows tx\_lpi\_active as an output from the PCS TRANSMIT module, which has inputs of TXD<3:0>, tx\_error\_mii, and tx\_enable\_mii.

The tx\_error\_mii and tx\_enable\_mii signals are outputs from the PCS DATA TRANSMISSION ENABLE module, which is described in Figure 146-4 - PCS data transmission enabling state diagram. This will be in the DISABLE DATA TRANSMISSION state if tx\_mode is SEND\_I or SEND\_Z (but not SEND\_N), with tx\_error\_mii and tx\_enable\_mii both being assigned FALSE.

The condition to set tx\_lpi\_active to TRUE looks like it should not happen when tx\_mode = SEND\_Z or SEND\_I, as the 'Assert LPI' condition would have tx\_enable\_mii = FALSE and tx\_error\_mii = TRUE.

The description of tx\_lpi\_active of 146.2.11 relates the value of this signal back more directly to the MII signals, which I think is correct. But Figure 146-3 seems to contradict this, and it should not.

### SuggestedRemedy

Other PHY standards are less contradictory, e.g. 1000BASE-T states explicitly how its loc\_lpi\_req signal is generated from the MII signals in Clause 40.3.1.6 PCS Local LPI Request function. Something equivalent to this should be added to Clause 146 for 10BASE-T1L.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

Awaiting presentation from Steffen Graber with complete proposal.

CI **146** SC **146.3** P **96** L **6** # **578**  
Fitzgerald, Niall Acuitas Silicon

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

Figure 146-3 - PCS reference diagram shows rx\_lpi\_active as an input to the PCS RECEIVE module, coming from the PMA SERVICE INTERFACE.

The actual direction is the reverse; rx\_lpi\_active is an output from the PCS receive state diagram and is used in the PMA.

### SuggestedRemedy

Reverse the direction of the rx\_lpi\_active signal in Figure 146-3 - PCS reference diagram.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **146** SC **146.3** P **96** L **6** # **580**  
Fitzgerald, Niall Acuitas Silicon

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

Figure 146-3 - PCS reference diagram omits the loc\_lpi\_req signal from the PMA.

I understand that this is used by the PCS TRANSMIT function, as shown later in Figure 146-6-PCS transmit symbol generation.

### SuggestedRemedy

Add loc\_lpi\_req to Figure 146-3-PCS reference diagram.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **146** SC **146.3** P **96** L **10** # **566**  
Laubach, Mark Broadcom

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

Both line 10 "config" and line 29 "receiving" the text could be horizontal rather than vertical. To me easier reading. Same for Page 113, Line 7 "config" and line 25 "recovery clock".

### SuggestedRemedy

Suggest make both horizontal.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **146** SC **146.3.2.1** P **98** L **4** # **517**  
Maguire, Valerie The Siemon Company

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

Clause 22.2.2.5 is in the amendment.

### SuggestedRemedy

Make 22.2.2.5 a cross-reference and remove the "External" character tag

Proposed Response Response Status **W**

PROPOSED ACCEPT.



# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.3.2.1** P **98** L **4** # **111**  
Anslow, Pete Ciena

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

"22.2.2.5" should be a cross-reference.  
Same issue in 147.3.2.2 (page 149, line 36)

## SuggestedRemedy

Make "22.2.2.5" a cross-reference here and in 147.3.2.2 (page 149, line 36).

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **146** SC **146.3.3.1** P **101** L **1** # **362**  
Yseboodt, Lennart Signify

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

The state diagram in Figure 146-5 is drawn with a different style from the other state diagrams in this Clause.

## SuggestedRemedy

- Black dots are used to denote where lines are merged. No other state diagram does this. Remove the dots (line 36 and 40)
- Label A is in a circle, change this to the typical label drawing (make a consistent style across Clause 146 and 147, they seem to differ on this)
- The arc from TRANSMIT DATA to itself is drawn very close to the state box. Move the TRANSMIT DATA state to the right to avoid this.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.  
Remove dots at line 36 and 40. Labels in circles as inputs are correct 802.3 style.  
Commenter to consider maintenance request on clause 96 (100BASE-T1) where the incorrect symbol in clause 147 came from. Fix labels in clause 147 to be in circles....  
(THERE APPEARS TO BE NO COMMENT ON CLAUSE 147 ON THIS ISSUE)

CI **146** SC **146.3.3.1** P **101** L **4** # **90**  
Anslow, Pete Ciena

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

In Figure 146-5, the label for the centre arrow at the top of the SEND IDLE state is offset to the left so that it appears to relate to the transition from the bottom of the state.

## SuggestedRemedy

Move the label to be centred on the middle arrow.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **146** SC **146.3.3.2.1** P **102** L **41** # **264**  
Andre, Szczepanek HSZ Consulting

Comment Type **ER** Comment Status **D** EZ

I find this sub-clause very confusing because it uses the term "transmitter side-stream scrambler" to describe the generator polynomial LSFR. The LSFR is the subject of further scrambling by the auxillary generator polynomial to produce SCn[3:0]. Figure 146-6 has a single box called "Side stream scrambler" that produces SCn[3:0], so text such as "An implementation of master and slave PHY side-stream scramblers by linear-feedback shift registers is shown in Figure-146-7" is mis-leading.

## SuggestedRemedy

Change  
"An implementation of master and slave PHY side-stream scramblers by linear-feedback shift registers is shown in Figure-146-7"  
to  
"An implementation of master and slave PHY side-stream generator polynomials by linear-feedback shift registers is shown in Figure-146-7"

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **146** SC **146.3.3.2.1** P **102** L **47** # **319**  
Yseboodt, Lennart Signify

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

"In no case shall the scrambler state be initialized to all zeros."

Akward wording.

## SuggestedRemedy

"The scrambler state not be initialized to all zeros."

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **146** SC **146.3.3.2.3** P **103** L **40** # **257**  
Andre, Szczepanek HSZ Consulting

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

This sub-clause is redundant

## SuggestedRemedy

Remove 146.3.3.2.3  
Edit 146.3.3.2.2 to generate SCn[3:0] directly.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 146 SC 146.3.3.2.5 P 104 L 29 # 91  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

When the triplet "TAn, TBn, TCn" is introduced in 146.3.3.2 and every where else, the "n"s are subscripted. Here they are not.

## SuggestedRemedy

Subscript the three "n"s in "(TAn, TBn, TCn)"

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 146 SC 146.3.3.2.5 P 104 L 31 # 258  
Andre, Szczepanek HSZ Consulting

Comment Type E Comment Status D Editorial

"The running disparity is reflecting this actual difference and depending on the running disparity the next symbol coding is chosen."

## SuggestedRemedy

Change

"The running disparity is reflecting this actual difference and depending on the running disparity the next symbol coding is chosen."

to

"The running disparity reflects this difference and is used to choose the coding of the next symbol."

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 146 SC 146.3.3.2.7 P 104 L 51 # 92  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

"shall be a sent in the following order" contains a spurious "a"

## SuggestedRemedy

Change to "shall be sent in the following order".

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 146 SC 146.3.3.2.7 P 105 L 7 # 320  
Yseboodt, Lennart Signify

Comment Type E Comment Status D EZ

In Table 146-1 the 4B3T encoding is listed using the symbols -, +, and 0.

Legibility can be improved.

## SuggestedRemedy

- Replace "-" by a real minus symbol, not a hyphen

- Insert a non-breakable space (with fixed width, Frame: Ctrl+Space) between the symbols

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 146 SC 146.3.3.2.7 P 105 L 35 # 321  
Yseboodt, Lennart Signify

Comment Type E Comment Status D EZ

Table 146-2 and 146-3 use hyphens to indicate negative numbers.

## SuggestedRemedy

Change hyphen to minus symbol.

Proposed Response Response Status W

PROPOSED ACCEPT.

## Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.3.4.1** P **106** L **8** # **469**  
 Jones, Peter Cisco

Comment Type **TR** Comment Status **D** Big Ticket Item JAB

this seems be a poorly defined version of the jabber functionality defined for 10BASE2 and 10BASE5 (the other multidrop PHYs) but defined on the RX path instead of the TX path. I believe that we should use the existing jabber related definitions (1.4.242 and 1.4.243) and terminology, take the text from "10.3.1.4 Jabber functional requirements" (with appropriate changes), and implement a version of "Figure 10 3 Jabber function state diagram" with appropriate changes.

Clause 1 definitions.

1.4.242 jabber: A condition wherein a station transmits for a period of time longer than the maximum permissible packet length, usually due to a fault condition.

1.4.243 Jabber function: A mechanism for controlling abnormally long transmissions (i.e., jabber).

Clause 10 text

10.3.1.4 Jabber functional requirements The MAU shall contain the capability as defined in Figure 10 3 to interrupt a transmission from a DO circuit that exceeds a time duration determined by the MAU.....

### SuggestedRemedy

Make suggested changes, see comments from Piergiorgio Beruto

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.  
 TFTD.

Clause 146 is a full duplex PHY which continuously transmits symbols. The model the commenter suggests is appropriate to half-duplex PHYs on a mixing segment.

Figure 146-10 serves the purpose to prevent the receive state machine lockup should the COMMA and ESD become corrupted.

Task Force to consider the purpose of the JAB state diagram here, borrowed from Clause 96, on a point-to-point medium and whether it should be renamed, aligned with Clause 147, or incorporated into the main PCS receive state diagram.

CI **146** SC **146.3.4.1** P **106** L **13** # **259**  
 Andre, Szczepanek HSZ Consulting

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

This paragraph though technically correct does not explain why a delay is necessary. It is my understanding that the delay is required to allow packets with ESD\_ERR4 to be indicated as in error on the MII.  
 So why not say this ?

### SuggestedRemedy

Change

"ensuring correct packet reception at the MII"

to

"ensuring correct indication of error marked(ESD\_ERR4) packets at the MII."

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

After "As a result, the depth of the data flush-in delay line is the same as the flush-out delay line ensuring correct packet reception at the MII.",

Insert "These delay lines are necessary to decode the stream delimiters prior to forwarding the received data to the MII interface." (the delay is necessary to manage both the start and end of stream delimiter)"

CI **146** SC **146.3.4.1** P **106** L **19** # **470**  
 Jones, Peter Cisco

Comment Type **ER** Comment Status **D** EZ

Replace "ESD4 and ERR\_ESD4, see 1" with ""ESD4 and ERR\_ESD4 values see"

### SuggestedRemedy

Make suggested change

Proposed Response Response Status **W**

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 146 SC 146.3.4.1 P 106 L 21 # 186  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type T Comment Status D PMA

A hint should be given to a PHY developer not to (accidentally) align the PHY training with the receiving of the delimiter symbols, as these symbols are not scrambled.

## SuggestedRemedy

Please add the following Note: Note - The Data or Idle Data stream of each PHY is scrambled using different generator polynomials for the Master and the Slave PHY. Nevertheless the comma sequence, the delimiters and the disparity reset symbols are not scrambled. Care must be taken to not synchronize the PHY training to these symbols as this could have a negative effect on the Echo Cancellor training, especially when transmitting short Ethernet telegrams.

Proposed Response Response Status W

PROPOSED REJECT.

Implementation notes are inappropriate for the standard. If there is a necessary requirement to be added for interoperability, we should state it, but there appears none.

CI 146 SC 146.3.4.1 P 107 L 1 # 577  
Fitzgerald, Niall Acuitas Silicon

Comment Type T Comment Status D Big Ticket Item EEE

States in the PCS receive state diagram (Figure 146-8 and Figure 146-9) make assignments to Srn[3:0], rather than to RXD[3:0].

Clause 146.3.4.1.1 describes Srn[3:0] as:  
Output from 4B3T decoder to descrambler.

So Srn[3:0] is scrambled data. Assignments to Srn[3:0] in many cases will not give the desired/required results.

For example, in the LOW POWER IDLE state, the MII receive signals should be RX\_DV = 0, RX\_ER = 1, RXD[3:0] = 0001 (to show 'Assert LPI' of Table 22-2). Setting Srn[3:0] to 0001 does not appear to achieve this, as this is the input to the descrambler, and not the output of the descrambler (or RXD[3:0] directly).

## SuggestedRemedy

Replace assignments to Srn[3:0] in the PCS receive state diagram of Figure 146-8 and Figure 146-9 with equivalent assignments to RXD[3:0].

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

Awaiting presentation from Steffen Graber to replace Srn[3:0] with RXD[3:0]

CI 146 SC 146.3.4.1 P 107 L 28 # 187  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ

[EASY] (scr\_status = OK)\*

## SuggestedRemedy

(scr\_status = OK) \* (space before "\*" is missing)

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 146 SC 146.3.4.1 P 109 L 15 # 473  
Jones, Peter Cisco

Comment Type TR Comment Status D Big Ticket Item JAB

Figure 146-10-JAB state diagram - JAB is undefined. I believe that this should be Jabber function state diagram, and should be patterned after Figure 10 3 Jabber function state diagram

## SuggestedRemedy

Make suggested changes, see comments from Piergiorgio Beruto

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
See comment 469

CI 146 SC 146.3.4.1.1 P 109 L 29 # 263  
Andre, Szczepanek HSZ Consulting

Comment Type E Comment Status D EZ

It is normal practise for state diagrams to follow the definition of Variables, Functions, & Timers. This convention is followed for the PCS TX SM, but not for the RX SM.

## SuggestedRemedy

Move PCS Rx and JAB state diagrams after 146.3.4.1.3 (Timers)

Proposed Response Response Status W

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 146 SC 146.3.4.1.1 P 109 L 49 # 720  
McClellan, Brett Marvell

Comment Type TR Comment Status D EEE

lpi\_enabled currently depends only on a configuration bit, however a mismatched configuration between link partners will cause dropped links. EEE only works when negotiated with a link partner.

lpi\_enabled should be based on a negotiated capability, not a configuration bit

## SuggestedRemedy

Delete register bit 1.2294.10 definition and replace with a EEE advertisement bit in MMD 7. See my other comment.

Change lpi\_enabled definition (here and in 146.4.4.1) to indicate that lpi\_enabled is TRUE when both the link partner and the local device advertise EEE ability for this PHY type.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 146 SC 146.3.4.1.1 P 110 L 6 # 576  
Fitzgerald, Niall Acuitas Silicon

Comment Type E Comment Status D Editorial

The RXD[3:0] signal is not described as being the corresponding signal of the MII, i.e. of Clause 22.2.2.8. This is in contrast to the preceding descriptions of RX\_ER and RX\_DV. This implies that RXD here is not the same as RXD of the MII, which I understand is not the case.

## SuggestedRemedy

Change the desription of RXD[3:0] to be:  
The RXD signal of the MII as specified in 22.2.2.8.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 146 SC 146.3.4.2 P 111 L 38 # 261  
Andre, Szczepanek HSZ Consulting

Comment Type TR Comment Status D PCS

"PCS Receive generates the sequence of symbols and indicates the reliable acquisition of the descrambler state by setting the parameter scr\_status to OK."

No information is provided anywhere in this clause as to how the side-stream scrambler polynomial LSFR state is acquired.

It is my understanding that Sdn[0] == Scrn[0] during SEND\_I allowing the LSFR state to be acquired during the initial PHY control SM "TRAINING\_MASTER and "WAIT\_MASTER\_TRAINING" states - exit from these states is dependent on (scr\_status =OK") which would appear to confirm this.

However the involvement of the PHY control SM in descrambler acquisition is not stated anywhere.

## SuggestedRemedy

Add a SM to show how descrambler lock is achieved.  
Create a variant of Figure 146-7 where the LSFR feedback (into Scrn[0]) can be sourced from Sdn[0] under SM control.  
The SM would seed the LSFR from Sdn[0] until Sdn[3:0] matches the equivalent of SCn[3:0] (as per 146.3.3.2.2) for at least 32 sequential triple ternary symbol periods.

Or an equivalent implementation

Proposed Response Response Status W

PROPOSED REJECT.

Tutorial information on synchronizing the scrambler is not required for interoperability and is not generally found in 802.3 BASE-T PHY clauses. Clause 40 is the model for these side stream scramblers and contains substantially the same information. Further implementation information of scrambler synchronization is not described. Clauses 32, 55, 113 and 126 all employ side stream scramblers with similar description.

CI 146 SC 146.3.4.3 P 112 L 12 # 322  
Yseboodt, Lennart Signify

Comment Type E Comment Status D EZ

There is a spurious period after equation 146-5.

## SuggestedRemedy

Remove period.

Proposed Response Response Status W

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.3.5** P **112** L **32** # **474**  
 Jones, Peter Cisco  
 Comment Type **ER** Comment Status **D** Editorial  
 Remove " PCS loopback mode is enabled"  
 SuggestedRemedy  
 Make suggested change  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

CI **146** SC **146.4** P **113** L **3** # **581**  
 Fitzgerald, Niall Acuitas Silicon  
 Comment Type **E** Comment Status **D** EZ  
 Figure 146-11-PMA functional block diagram shows rx\_lpi\_active twice, i.e. as two separate inputs, one for PHY CONTROL and one for PMA RECEIVE.  
 This conflicts with convention, used for other signals in the diagram, e.g. scr\_status is shown as a single input going to two separate places.  
 SuggestedRemedy  
 Change Figure 146-11-PMA functional block diagram to show rx\_lpi\_active as a single input that goes to PHY CONTROL and PMA RECEIVE.  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

CI **146** SC **146.4.3** P **114** L **36** # **262**  
 Andre, Szczepanek HSZ Consulting  
 Comment Type **E** Comment Status **D** EZ  
 "received signals on at the MDI"  
 SuggestedRemedy  
 Change  
 "received signals on at the MDI"  
 to  
 "received signals on the MDI"  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

CI **146** SC **146.4.3** P **114** L **37** # **391**  
 Jones, Chad Cisco  
 Comment Type **ER** Comment Status **D** EZ  
 extra word in sentence: "PMA Receive has the ability to translate the received signals on at the MDI into the PMA\_UNITDATA.indication parameter rx\_symb\_vector."  
 SuggestedRemedy  
 delete 'at' from the sentence: "PMA Receive has the ability to translate the received signals on the MDI into the PMA\_UNITDATA.indication parameter rx\_symb\_vector."  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

CI **146** SC **146.4.3** P **115** L **19** # **475**  
 Jones, Peter Cisco  
 Comment Type **T** Comment Status **D** PMA  
 Why is PMA Receive fault optional and not mandatory  
 SuggestedRemedy  
 clarify  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT IN PRINCIPLE.  
 generation of PMA receive fault is generally optional in 802.3 BASE-T PHYs. This PHY follows the practice. No change to draft.

CI **146** SC **146.4.4** P **115** L **27** # **476**  
 Jones, Peter Cisco  
 Comment Type **TR** Comment Status **D** EZ  
 This says "via management control during initialization or via default hardware setup." I think these are the same thing from this documents point of view. We don't say where the manangement control got it's data, and we don't define hardware.  
 SuggestedRemedy  
 Strike out via "default hardware setup"  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.4.4** P **115** L **31** # **93**  
 Anslow, Pete Ciena  
 Comment Type **E** Comment Status **D** EZ  
 "10BASE-T1L" should not be split across two lines.  
 SuggestedRemedy  
 Replace the hyphen with a non-breaking hyphen (Esc, -, h) (three key presses)  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

CI **146** SC **146.4.4** P **115** L **39** # **583**  
 Fitzgerald, Niall Acuitas Silicon  
 Comment Type **T** Comment Status **D** PMA  
 Clause 146.4.4 describes the PHY Control function, and makes mention of a fast startup mode, as follows:  
 "There shall be two startup sequences, depending on which training time is needed during the startup. If there is no predetermined configuration available, the maximum time, until link\_status = OK is reached, shall be less than 3000 ± 30 ms. If there is a predetermined configuration available (a set of valid filter coefficients is available), the maximum time from power\_on = FALSE to link\_status = OK shall be less than 100 ms."  
 The fast startup mode mentioned here is not defined subsequently in the definition of the training\_timer in Clause 146.4.4.2, or in the definition of the PHY Control state diagram of Figure 146-15 and Figure 146-16.  
 It does seem that a fast startup mode would have to apply in both PHYs. The MASTER PHY still has to wait for the SLAVE to start transmitting before it can startup its own training, and a fast link startup in the MASTER would likely fail if the SLAVE were not also operating a fast startup mode.  
 In addition, the fast startup appears to relate to a power\_on signal not defined elsewhere in Clause 146 (I understand that it is defined in Clause 98.5.1).

SuggestedRemedy  
 Remove mention of the fast startup mode from the description of the PHY Control function in Clause 146.4.4, i.e. lines 39 - 46 on page 115.  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Implemented by comment i-478

CI **146** SC **146.4.4** P **115** L **39** # **477**  
 Jones, Peter Cisco  
 Comment Type **TR** Comment Status **D** Big Ticket Item PMA  
 predetermined configuration available doesn't make sense in this standard. How/where are the filter coefficients passed to the PMA? They should come in via the MDIO - see Figure 146 2 10BASE-T1L PHY interfaces

SuggestedRemedy  
 Replace "If there is no predetermined configuration available, the maximum time, until link\_status = OK is reached, shall be less than 3000 ± 30 ms. If there is a predetermined configuration available (a set of valid filter coefficients is available), the maximum time from power\_on" with "If valid filter coefficients are not provided, the maximum time until link\_status = OK is reached shall be less than 3000 ± 30 ms. Otherwise, , the maximum time from power\_on "  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.  
 TFTD - is this sufficient description to satisfy our CSD.

CI **146** SC **146.4.4** P **115** L **44** # **478**  
 Jones, Peter Cisco  
 Comment Type **TR** Comment Status **D** PMA  
 Where is "fast startup" defined/described. Why is this note needed?

SuggestedRemedy  
 delete the note  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

CI **146** SC **146.4.4** P **115** L **44** # **94**  
 Anslow, Pete Ciena  
 Comment Type **E** Comment Status **D** EZ  
 Notes start with "NOTE-" i.e., an em-dash and no spaces before the first word of the note. Same issue with the note in 146.4.4.2, the note in 146.5.5.3, the note in 146.8.4, and the note in 147.3.3.1.

SuggestedRemedy  
 In 146.4.4, change "NOTE - Fast" to "NOTE-Fast"  
 In 146.4.4.2, change "NOTE - After" to "NOTE-After"  
 In 146.5.5.3, change "Note: If" to "NOTE-If"  
 In 146.8.4, change "Note: Typically" to "NOTE-Typically"  
 In 147.3.3.1, change "Note: A" to "NOTE-A"  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

Cl 146 SC 146.4.4.1 P 116 L 2 # 564  
Laubach, Mark Broadcom

Comment Type TR Comment Status D EZ

"This variable is generated by management or set by default" is unclear to me. The variable is always defined in the standard, so "not generated", "set by management"? If "set by default" what is the default value? Looking at 146.4.5, there is closer wording that might have better clarity.

## SuggestedRemedy

Suggest "This variable is set by management control or via hardware."

Proposed Response Response Status W  
PROPOSED ACCEPT.

Cl 146 SC 146.4.4.1 P 116 L 5 # 565  
Laubach, Mark Broadcom

Comment Type TR Comment Status D EZ

"set by default", what is the default value?

## SuggestedRemedy

Indicate the default value.

Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
delete "set by default"

Cl 146 SC 146.4.4.1 P 116 L 22 # 188  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ

[EASY] Possible values are missing.

## SuggestedRemedy

Add: Values: TRUE or FALSE

Proposed Response Response Status W  
PROPOSED ACCEPT.

Cl 146 SC 146.4.4.2 P 117 L 28 # 323  
Yseboodt, Lennart Signify

Comment Type E Comment Status D EZ

The note at the end of 146.4.4.2 is incorrectly formatted.

## SuggestedRemedy

Notes starts with 'NOTE' in capitals, followed by an em-dash.

Proposed Response Response Status W  
PROPOSED ACCEPT.

Cl 146 SC 146.4.4.2 P 117 L 29 # 479  
Jones, Peter Cisco

Comment Type TR Comment Status D Editorial

This says "the PHYs may not immediately drop the link", Is the may supposed to trigger an optional PICS entry

## SuggestedRemedy

rewrite or delete the note

Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
replace "may" with "will"



# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.4.4.3** P **118** L **14** # **584**  
Fitzgerald, Niall Acuitas Silicon

Comment Type **T** Comment Status **D** Big Ticket Item PMA

In the PHY Control state diagram (Figure 146-14), the training\_timer\_done provokes a transition back to DISABLE TRANSMITTER, and an implied full restart of PHY receiver training for link startup.

It is unclear why such behaviour should be mandated in the standard.

When auto-negotiation is enabled, the link\_fail\_inhibit\_timer provides fail-safe timeout functionality.

When auto-negotiation is disabled, i.e. for the FORCE mode mentioned in Clause 146.4.4, there would be no similar external timeout. But neither would the PHY Control functions be synchronized in a manner similar to when auto-negotiation is enabled. The starting times of the training\_timer for the PHYs would depend on when they emerged from power down; one could start 1500 ms after the other, and the PHYs would not have the ~3000 ms (in common) for successful link startup.

I can provide a more detailed document describing the potential issues here if needed.

## SuggestedRemedy

Consider removing the training\_timer, and associated transitions back to DISABLE TRANSMITTER on the condition training\_timer\_done.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.  
PROPOSED ACCEPT IN PRINCIPLE.  
TFTD

Awaiting presentation from Steffen Graber with complete proposal.

CI **146** SC **146.4.4.3** P **118** L **42** # **190**  
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] loc\_lp\_req <= FALSE (within state "SEND IDLE OR DATA")

## SuggestedRemedy

loc\_lpi\_req <= FALSE (add "i" after "lp").

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **146** SC **146.4.4.3** P **118** L **42** # **189**  
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] '...' + (scr\_status = NOT\_OK) ]\*

## SuggestedRemedy

. + (scr\_status = NOT\_OK) \* (remove "]" after (scr\_status = NOT\_OK), only the scr\_status check is intended to be disabled, if lpi is active.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **146** SC **146.4.4.3** P **118** L **50** # **441**  
Wienckowski, Natalie General Motors

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

Inconsistency of naming diagram when broken into 2, 146-14 (part a), 146-15 (part b) while 147- 4 (1 of 2), 147-5 (2 of 2) and 147-8 (1 of 2), 147-9 (2 of 2).

## SuggestedRemedy

Pick one method and use it throughout the entire document.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

Use "part a" or "part b" consistently (change clause 147).

## Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.4.4.3** P **119** L **1** # **574**  
 Fitzgerald, Niall Acuitas Silicon

Comment Type **T** Comment Status **D** Big Ticket Item **EEE**

Figure 15-15 PHY Control state diagram (part b) describes LPI sequencing, where an asymmetric LPI scheme has been adopted.  
 I have some concerns here:

- There is no Refresh Monitor function defined, which would define timeout/fail-safe behavior should the PHY observe non-compliant LPI sequencing from the link partner, i.e. the link partner has missed a number of refreshes.
- A scenario could arise where the SLAVE transmits data frames when the MASTER is in QUIET. It might be that more requirements should be placed on MASTER transmit clock behavior during LPI mode.
- Refresh-quiet cycling will be asynchronous between the PHYs.
- Power saving in the PHY might be limited by the high refresh/quiet ratio.

A symmetric LPI approach, similar to that of 1000BASE-T EEE, might have been considered. This would address some of the issues here.

I can provide a more detailed document describing the potential issues here if needed.

### SuggestedRemedy

Consider adopting a symmetric LPI approach for 10BASE-T1L EEE.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.  
 TFTD. It is unclear whether there is benefit in only using symmetric LPI - applications for asymmetric traffic are envisioned. A complete proposal is required to make changes.

See adhoc presentation  
[http://www.ieee802.org/3/cg/public/adhoc/fitzgerald\\_0815\\_10baset1l\\_low\\_power\\_idle.pdf](http://www.ieee802.org/3/cg/public/adhoc/fitzgerald_0815_10baset1l_low_power_idle.pdf)

for information.

CI **146** SC **146.4.4.3** P **119** L **1** # **582**  
 Fitzgerald, Niall Acuitas Silicon

Comment Type **T** Comment Status **D** Big Ticket Item **EEE**

Figure 146-15-PHY Control state diagram (part b) shows the SEND SLEEP state. The only exit condition is lpi\_sleep\_timer\_done (which happens after 205 us).

Consider what happens when the MII shows 'Assert LPI' for a very short time (e.g. 1 us). PHY Control will have to wait 205 us in SEND SLEEP, before proceeding to QUIET where it will proceed immediately to SEND WAKE, as tx\_lpi\_active = FALSE, and it has to wait for lpi\_wake\_timer\_done (a further 205 us). This means an aggregate time of 410 us until PHY Control returns to SEND IDLE OR DATA, where it sets tx\_mode = SEND\_N to allow frame transmission. So 410 us is the effective wake time in this scenario.

### SuggestedRemedy

Consider modifying the PHY Control state diagram (Figure 146-14 and 146-15) to add an additional transition from SEND SLEEP back to SEND IDLE OR DATA on condition tx\_lpi\_active = FALSE.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 146 SC 146.4.5 P 120 L 1 # 575  
Fitzgerald, Niall Acuitas Silicon

Comment Type T Comment Status D Big Ticket Item EEE

The Link Monitor function generates link\_status primarily from the tx\_mode signal generated by PHY Control. When in the LINK UP state, the transition back to LINK DOWN will occur if the condition tx\_mode = SEND\_Z occurs.

This makes no account for the QUIET state of Figure 146-15 - PHY Control state diagram (part b), where the assignment tx\_mode = SEND\_Z occurs. The QUIET state is part of normal LPI mode sequencing, and entry to this state does not constitute a link down event.

## SuggestedRemedy

The PHY Control function could be modified to generate a new signal, perhaps called link\_up, as follows:

link\_up <= FALSE in DISABLE TRANSMITTER  
link\_up <= TRUE in SEND IDLE OR DATA

The Link Monitor state diagram would then be modified as follows:

Use link\_up=TRUE as the condition to transition from LINK\_DOWN to LINK UP.  
Use link\_up=FALSE as the condition to transition from LINK UP to LINK DOWN.

An alternative option would be to generate link\_status directly from PHY Control, and remove the Link Monitor entirely.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
In figure 146-16, change condition  
tx\_mode = SEND\_Z  
from LINK DOWN to LINK UP states

to:  
(tx\_mode = SEND\_Z) \* (loc\_lpi\_req = FALSE).

CI 146 SC 146.5.1 P 120 L 53 # 480  
Jones, Peter Cisco

Comment Type TR Comment Status D PMA Electrical

This says "Direct Power Injection (DPI) and 150 ? emission tests for noise immunity and emission as per 146.5.1.1 and 146.5.1.2 may be used to establish a baseline for PHY EMC performance. ". Why is this a MAY? Are there other ways to do it defined in the standard? Should this trigger a PICS?

## SuggestedRemedy

Review text, change is needed.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Change "may" to "can"

CI 146 SC 146.5.1 P 121 L 1 # 484  
Jones, Peter Cisco

Comment Type TR Comment Status D PMA Electrical

The sentence "Additional tests may be needed to verify EMC performance in various configurations, applications, and conditions." adds no value

## SuggestedRemedy

make proposed change

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
delete "Additional tests may be needed to verify EMC performance in various configurations, applications, and conditions."

CI 146 SC 146.5.1.1 P 121 L # 483  
Jones, Peter Cisco

Comment Type TR Comment Status D PMA Electrical

Change "RF CM noise may be tested according" to "RF CM noise shall be tested according"

## SuggestedRemedy

make proposed change

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
change "may be tested" to "can be tested"

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 146 SC 146.5.1.1 P 121 L # 482  
Jones, Peter Cisco

Comment Type TR Comment Status D Big Ticket Item Safety

A number of places in the draft say "and may need to comply with more stringent requirements as agreed upon between customer and supplier", "subject to agreement between the customer and the supplier", or similar. This is not relevant to a standard.

## SuggestedRemedy

remove all instances of this type of phrase.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
accomodated by numerous Chad Jones comments.

CI 146 SC 146.5.1.1 P 121 L 10 # 392  
Jones, Chad Cisco

Comment Type TR Comment Status D Big Ticket Item PMA

The agreement between customer and supplier has no business in an 802.3 spec. "and may need to comply with more stringent requirements as agreed upon between customer and supplier." is inappropriate for a interoperability document.

## SuggestedRemedy

CHANGE TO: "but may need to comply with more stringent requirements."  
Also, this text is repeated below at line 15. change there too.

Proposed Response Response Status W

PROPOSED ACCEPT.  
TFTD Controversial (relates to other automotive PHYs)

CI 146 SC 146.5.1.2 P 121 L 14 # 481  
Jones, Peter Cisco

Comment Type TR Comment Status D PMA Electrical

Change "may be tested according" to " shall be tested according"

## SuggestedRemedy

make proposed change

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Change "may be tested" to "can be tested"

CI 146 SC 146.5.2 P 121 L 20 # 393  
Jones, Chad Cisco

Comment Type TR Comment Status D PMA Electrical

untestable SHALL: "The test modes described in this sub clause shall be provided to allow testing of the transmitter waveform, transmitter distortion, transmitter jitter, and transmitter droop." shall be provided to whom? And all this shall says is that you must have test modes described in this subclause (oh, and subclause is one word BTW).  
Remove the shall.

## SuggestedRemedy

CHANGE TO: "The test modes described in this subclause are provided to allow testing of the transmitter waveform, transmitter distortion, transmitter jitter, and transmitter droop."  
Unless you mean the test modes shall be implemented by the PHY (which it looks like this is the intent reading on in the section). If so, say that.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Change "in this sub clause" to a cross reference to the subclause (146.5.2) "and subclauses. This exact language is used to require the implementation of test modes in nearly every other 802.3 clause.

CI 146 SC 146.5.2 P 121 L 20 # 670  
Donahue, Curtis UNH-IOL

Comment Type E Comment Status D EZ

Change "sub clause" to "subclause".

## SuggestedRemedy

Change "sub clause" to "subclause".

Proposed Response Response Status W

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.5.3** P **121** L **40** # **672**  
Donahue, Curtis UNH-IOL

Comment Type **E** Comment Status **D** PMA Electrical

146.5.3 is the "Test Fixture" subclause but only mentions one of the two defined test fixtures in CL146. Additionally, in 146.5.3 it is stated that the Test Fixture in Figure 146-17 "or its equivalent" can be used for measuring appropriate electrical characteristics, but this same language is missing from the mention of the PSD Test Fixture (Figure 146-18) in 146.5.4.4. It is important that the "or its equivalent" is applicable to both Test fixtures, particularly since Figure 146-18 specifies a Spectrum Analyzer and many T&M suppliers support this test being performed on an oscilloscope.

Additionally, it would probably be appropriate to anchor figure 146-18 close to 146.5.3.

## SuggestedRemedy

Suggest the following changes:

1. modifying the text in the first paragraph to be similar to that in "55.5.2.1 Test Fixtures".
2. Move Figure 146-18 to subclause 146.5.3.
3. Rename Figure 146-17 to "Transmitter test fixture 1 for transmitter voltage, transmitter droop, and transmitter timing jitter".
4. Rename Figure 146-18 to "Transmitter test fixture 2 for power spectral density measurement and transmit power level measurement".

Proposed Response Response Status **W**  
PROPOSED ACCEPT.

CI **146** SC **146.5.3** P **121** L **121** # **394**  
Jones, Chad Cisco

Comment Type **ER** Comment Status **D** PMA Electrical

"The test fixture shown in Figure 146-17, or its equivalent, is being used in the stated respective tests for measuring the transmitter specifications."  
the test fixture is used, not is being used.

## SuggestedRemedy

CHANGE TO: "The test fixture shown in Figure 146-17, or its equivalent, is used in the stated respective tests for measuring the transmitter specifications."  
Honestly, this sentence is horribly constructed. 'used for the stated respective tests', what tests? the preceding tests? the following tests? the combination? I'd be just as happy if you rewrote the sentence to clarify.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change "The test fixture shown in Figure 146-17, or its equivalent, is being used in the stated respective tests for measuring the transmitter specifications." to "The test fixture shown in Figure 146-17, or its equivalent, is used for measuring the transmitter specifications in 146.5.4." Rename Figure 146-17 "Transmitter Test Fixture for Output voltage, Output Droop, and Timing Jitter"

CI **146** SC **146.5.3** P **122** L **2** # **149**  
Lewis, Jon Dell EMC

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

Resistor isn't aligned properly

## SuggestedRemedy

Replace figure with the figure from 147.5.4.1

Proposed Response Response Status **W**  
PROPOSED ACCEPT.

CI **146** SC **146.5.4** P **122** L **28** # **395**  
Jones, Chad Cisco

Comment Type **ER** Comment Status **D** EZ

"the transmitter shall meet the requirements of this section with a..." which section? You mean subclause 146.5.4? If so please state that.

## SuggestedRemedy

replace 'section' with the appropriate subclause link or 'this clause'.

Proposed Response Response Status **W**  
PROPOSED ACCEPT IN PRINCIPLE.  
replace "section" with <cross-ref> "146.5.4"

CI **146** SC **146.5.4.1** P **122** L **32** # **485**  
Jones, Peter Cisco

Comment Type **TR** Comment Status **D** PMA Electrical

I'd really like some overview text in 146.1 Overview explaining the need for 2 voltage levels

## SuggestedRemedy

Add text to overview section explaining why we have 2 voltage levels

Proposed Response Response Status **W**

PROPOSED REJECT.

while text describing how to choose the voltage level might be useful, text explaining why we need it is out of scope.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 146 SC 146.5.4.1 P 122 L 32 # 568  
Laubach, Mark Broadcom

Comment Type T Comment Status D PMA

Clause 45.2.1.174a.4 is titled "Transmit voltage amplitude". This clause is titled "Transmitter output voltage" (used else in this clause). Second paragraph also uses "transmitter driving level" (used only once here with no definition). Are these all the same? Why three? Please pick one and/or provide sufficiently details definitions for each. Note: "Transmit voltage amplitude" on appears in this project. "Transmitter output voltage" is used in other clauses (projects) and may be an appropriate choice.

## SuggestedRemedy

Pick one.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Use "Transmitter output voltage".

CI 146 SC 146.5.4.1 P 122 L 37 # 671  
Donahue, Curtis UNH-IOL

Comment Type T Comment Status D Big Ticket Item TX Level

The last sentences of both paragraphs in 146.5.4.1 imply that the 10BASE-T1L voltage modes (2.4Vpp or 1.0Vpp) can be configured during Auto-Negotiation (presumably in CL98 is implemented). However, I could not find any references to voltage operation modes in CL98, but there are registers defined in CL45 to configure the voltage mode.

## SuggestedRemedy

Make it clearer to the reader how the transmitter output voltage mode is configured, and modify the text to appropriately describe this.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
TFTD

The issue is whether TX level needs to be coordinated between the two PHYs, should be requestable, or should be auto negotiated.

## Preference:

Delete "Additionally Auto-Negotiation can be used to find a common transmitter output voltage for the two PHYs." Voltage mode does not need to be communicated to the remote PHY for interoperability.

(Leave control and status bits for MDIO control as currently specified - AIP comment 723 changing bit A24 to Reserved and deleting P198 L 1-4) as per comment 723

Otherwise we need to define autoneg bits and priority for negotiation and resolution of the TX Voltage.

CI 146 SC 146.5.4.1 P 122 L 42 # 567  
Laubach, Mark Broadcom

Comment Type TR Comment Status D AutoNeg

"The default setting is". The default setting of what? Which variable(s) are set to default and what are the default values? "if available" not clear is this is refering to Auto-Negotiation or MDIO from context. Save for 146.6.2, Page 126, line 53. If changes made here, also reflect as appropriate in PICS 146.11.4.2.2 page 142, line 3.

## SuggestedRemedy

Suggest making the context clear.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
delete sentence "The default setting is Auto-Negotiation, if available" - the transmitter level does not need to be negotiated for interoperability.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.5.4.2** P **122** L **47** # **191**  
 Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **T** Comment Status **D** PMA Electrical

The droop measurement specified for Clause 146 and Clause 147 are different and should be aligned.

## SuggestedRemedy

Change the droop measurement of Clause 146.5.4.2 to the droop measurement being specified in Clause 147.5.4.2. Change the text of 146.5.4.2 in the following way:  
 Transmitter output droop shall be measured using test mode 2 in combination with the test fixture shown in Figure 146-17. The magnitude of both the positive and negative droop measured with respect to the initial peak value after the zero crossing and the value 666.67 ns after the initial peak, depicted in Figure 146-xx, shall be less than 10 %. Add also figure 147-13 (with a new reference to Clause 146) to 146.5.4.2 with the 800 ns value changed to 666.67 ns (5 bit times). (10 % droop instead of the original 20 % are used, as the measurement point is now in the middle of the 10 bit times pulse and in the original measurement the span of the inner 9 bits has been used, which is approximately double the time, thus allowing for a higher droop).

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change "Transmitter output droop shall be tested using test mode 2 in combination with the test fixture shown in Figure 146-17. The transmitter output droop shall be less than 20 % taking the inner 9 bit times of the 10 bit times pulse duration." to "With the transmitter in test mode 2 and using the transmitter test fixture shown in Figure 146-17, the magnitude of both the positive and negative droop shall be less than 10%, measured with respect to an initial value at 133.3 ns after the zero crossing and a final value at 800 ns after the zero crossing." (Editor's note this is modeled after clause 97 and other PHY clauses, removing requirements on the user and specifying the initial value as AFTER the zero crossing to avoid the edge - it is suggested that clause 147 might be modeled on this).

CI **146** SC **146.5.4.4** P **123** L **9** # **192**  
 Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **T** Comment Status **D** PMA Electrical

[PSD MASK] In test mode 3 (reflecting normal operation), the transmit power shall be  $8.8 \pm 1.0$  dBm for the 2.4 Vpp operating mode and  $1.2 \pm 1.0$  dBm for the 1.0 Vpp operating mode.

## SuggestedRemedy

In test mode 3 (reflecting normal operation in Idle mode), within a frequency range of 0.1 MHz to 20 MHz the transmit power shall be  $8.8 \pm 2.0$  dBm for the 2.4 Vpp operating mode and  $1.2 \pm 2.0$  dBm for the 1.0 Vpp operating mode. (see presentation 10BASE-T1L PSD Mask Changes).

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

Task Force to consider presentation and make changes if necessary.

CI **146** SC **146.5.4.4** P **123** L **29** # **193**  
 Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **T** Comment Status **D** sig Ticket Item PMA Electrical

[PSD MASK] Equations 146-6 to 146-9 and Figure 146-19.

## SuggestedRemedy

If agreed by the group, adapt the equations and figure according to presentation "10BASE-T1L PSD Mask Changes", page 4.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

Task Force to consider presentation and make changes if necessary.

CI **146** SC **146.5.4.4** P **123** L **32** # **150**  
 Lewis, Jon Dell EMC

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

Equations 146-6,7,8,9 need non-breaking spaces between the number and the units

## SuggestedRemedy

Add non-breaking spaces between the number and units across all equations listed.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 146 SC 146.5.4.4 P 124 L 1 # 324  
Yseboodt, Lennart Signify

Comment Type E Comment Status D Editorial

Figure 146-19 is not drawn in Frame, and furthermore uses grayscale for the axis which is inconsistent with the rest of the document.

## SuggestedRemedy

Redraw in Frame, with proper formatting.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Graphs are generally imported, not usually drawn in frame. Editor to investigate and fix 'gray scale'.

CI 146 SC 146.5.4.4 P 124 L 10 # 95  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

Figure 146-19 and Figure 146-23 are bit maps. This makes the draft larger than it needs to be and stops the text from being searchable.

## SuggestedRemedy

Replace Figure 146-19 and Figure 146-23 with vector-based versions (as per Figure 146-22 for example).

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 146 SC 146.5.4.5 P 124 L 29 # 486  
Jones, Peter Cisco

Comment Type TR Comment Status D Editorial

Why is this in MBd instead of MHz

## SuggestedRemedy

change to MHz

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Change to MHz and review other occurrences. A "rate" is measured in Hz, whereas "baud" implies rate. Where text says "rate", "MHz" is appropriate. Where the text simply says states the rate (without using the word rate), such as "symbols are transmitted at x MBd", "MBd" is appropriate. IEEE Std 802.3-2018 is mixed on this and recent style has been to start using MBd - incorrectly in some cases.

CI 146 SC 146.5.5.3 P 125 L 9 # 151  
Lewis, Jon Dell EMC

Comment Type E Comment Status D EZ

Resistor isn't aligned properly

## SuggestedRemedy

Align resistor(s) properly with the connection lines in the drawing.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 146 SC 146.5.5.3 P 125 L 18 # 96  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

The 802.3 standard uses capital omega rather than "ohm".

## SuggestedRemedy

Change "ohm" to capital omega in:

The note in 146.5.5.3

The note in 146.8.4

The heading row of Table 146B-1 (5 instances)

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 146 SC 146.5.6 P 125 L 23 # 673  
Donahue, Curtis UNH-IOL

Comment Type TR Comment Status D PMA Electrical

The maximum voltage requirements defined in 146.5.6 seem to conflict with the requirements provided in 146.5.4.1. 146.5.6 seems to imply up to a +10% tolerance of the output amplitude, but 146.5.4.1 explicitly states a +/-5% tolerance.

Additionally, it's not clear to me why this subclause exists outside 146.5.4.

## SuggestedRemedy

Suggest moving the text from 146.5.6 to 146.5.4.x, and resolving the conformance conflict between the two paragraphs.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Delete subclause 146.5.6 as repetitive.



# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 146 SC 146.5.7 P 125 L 29 # 133  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

"45.2.1.1" is an external cross-reference, so it should be in forest green

## SuggestedRemedy

Apply character tag "External" to "45.2.1.1"

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 146 SC 146.6.2 P 126 L 52 # 134  
Anslow, Pete Ciena

Comment Type T Comment Status D EZ

"45.2.1.131" is not the correct reference for register 1.2100

## SuggestedRemedy

Change "45.2.1.131" to "45.2.1.185" here and in 146.11.4.3 item MI3

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 146 SC 146.7.1.1 P 129 L 9 # 325  
Yseboodt, Lennart Signify

Comment Type E Comment Status D Editorial

Figure 146-19 is not drawn in Frame.

## SuggestedRemedy

Redraw in Frame.

Proposed Response Response Status W

PROPOSED REJECT.

Such figures as this, inserted graphs from Matlab, are ordinary and common in IEEE Std 802.3

CI 146 SC 146.7.1.2 P 129 L 41 # 154  
Hidaka, Yasuo Independent

Comment Type E Comment Status D EZ

Equation (146-12) has an unnecessary "dB".

## SuggestedRemedy

Remove the unnecessary "dB".

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 146 SC 146.7.1.3 P 130 L 30 # 674  
Donahue, Curtis UNH-IOL

Comment Type E Comment Status D Editorial

The last sentence of the paragraph seems anecdotal and not necessary to include in the standard. At most this language might be part of a note, but since the conformance requirement is stated in the previous sentence then this sentence should be removed.

## SuggestedRemedy

Remove "The delay is derived from the point-to-point 14 AWG (1.63 mm) link segment length of 1589 m given in Table 146B-1 using Equation (80-1) with an NVP of 0.6."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Explanation of derivation of delay added to resolve comment requesting details.

Change sentence to indicate informational by adding "Note that" given below.

Note that the delay is derived from the point-to-point 14 AWG (1.63 mm) link segment length of 1589 m given in Table 146B-1 using Equation (80-1) with an NVP of 0.6.

CI 146 SC 146.7.1.4 P 130 L 37 # 97  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

In "E1 or E2", the "1" and "2" should be subscripted.

## SuggestedRemedy

In "E1 or E2", subscript the "1" and "2".

Proposed Response Response Status W

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 146 SC 146.7.1.4 P 130 L 41 # 326  
Yseboodt, Lennart Signify

Comment Type E Comment Status D EZ

Table 146-5 does not use a minus symbol in the equations (4 occurrences).

## SuggestedRemedy

Replace hyphen by minus symbol.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 146 SC 146.7.1.4 P 130 L 44 # 327  
Yseboodt, Lennart Signify

Comment Type E Comment Status D EZ

Table 146-5: "TCL .1 <= f <= 20"

.1 should be 0.1 per the IEEE style guide (see 12.2).

## SuggestedRemedy

Fix here and on line 46.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Resolved by comment 98

CI 146 SC 146.7.1.4 P 130 L 44 # 98  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

The formatting in Table 146-5 is not according to the IEEE style manual.

## SuggestedRemedy

In Table 146-5:

change ".1" to "0.1" (2 instances)

"log" should be in upright font (4 instances)

The base of the log should be explicit. Replace "log" with "log10" where the "10" is a subscript.

"f" should be in italic font (6 instances)

The minus signs should be en-dashes (included in another comment)

Proposed Response Response Status W

PROPOSED ACCEPT.  
Resolve with comment#327

CI 146 SC 146.7.1.5 P 131 L 16 # 328  
Yseboodt, Lennart Signify

Comment Type E Comment Status D EZ

In Table 146-6 there is a missing horizontal lines between "(dB)" and "E1 E2 E3".

## SuggestedRemedy

Add horizontal line.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 146 SC 146.7.1.5 P 131 L 19 # 99  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

The Frequency (MHz) entry is ".1 <= f <= 20".

".1" should be "0.1" and "f" is not used anywhere, so it would be better to replace with "0.1 to 20"

## SuggestedRemedy

Replace ".1 <= f <= 20" with "0.1 to 20".

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 146 SC 146.7.1.5 P 131 L 19 # 329  
Yseboodt, Lennart Signify

Comment Type E Comment Status D EZ

Table 146-6: ".1 <= f <= 20"

.1 should be 0.1 per the IEEE style guide (see 12.2).

## SuggestedRemedy

Change to 0.1.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Resolve with comment#99

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.7.2.2** P **132** L **17** # **448**  
Ewen, John GlobalFoundries

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

Equation 146-14 uses "log" without the subscript "10" while similar equations in this section include the subscript.

## SuggestedRemedy

Add the "10" subscript to "log" to be consistent with similar equations within the sub-clause

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **146** SC **146.8.1** P **133** L **9** # **572**  
Shariff, Masood Commscope

Comment Type **TR** Comment Status **D** Big Ticket Item MDI

Clarify and complete the MDI connector specification. Consider liaison input from ISO/IEC/JTC 1/SC 25/WG 3 for single balanced pair MDI specification

## SuggestedRemedy

Add at the end of line 9: For M111C1E1 environments (e.g. commercial buildings, data centers), two-pin connectors meeting the requirements of IEC 63171-1 shall be used as the mechanical interface to the single balanced pair cabling. These are depicted (for informational use only) in Figure 146-xx. For M212C2E2/M313C3E3 environments (e.g. industrial, process control), two pin connectors meeting the requirements of IEC 61076-3-125 shall be used as the mechanical interface to the single balanced pair cabling. These are depicted (for informational use only) in Figure 146-yy."

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

TFTD - waiting liaison. Controversial

CI **146** SC **146.8.1** P **133** L **9** # **617**  
Kolesar, Paul CommScope

Comment Type **TR** Comment Status **D** Big Ticket Item MDI

The MDI connector specification is incomplete as it does not specify a form, nor does it delineate MICE operating conditions. The user would benefit by specifying both. Consider liaison input from ISO/IEC/JTC 1/SC 25/WG 3 for single balanced pair MDI specification.

## SuggestedRemedy

Add at the end of line 9: For M111C1E1 environments (e.g. commercial buildings, data centers), two-pin connectors meeting the requirements of IEC 63171-1 shall be used as the mechanical interface to the single balanced pair cabling. These are depicted (for informational use only) in Figure 146-xx. For M212C2E2/M313C3E3 environments (e.g. industrial, process control), two pin connectors meeting the requirements of IEC 61076-3-125 shall be used as the mechanical interface to the single balanced pair cabling. These are depicted (for informational use only) in Figure 146-yy."

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

TFTD - waiting liaison. Controversial

CI **146** SC **146.8.3** P **133** L **31** # **675**  
Donahue, Curtis UNH-IOL

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

Rogue equation number. should be centered with with equation (around line 26).

## SuggestedRemedy

Fix equation number position

Proposed Response Response Status **W**

PROPOSED ACCEPT.

## Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.8.4** P **133** L **33** # **423**  
 Jones, Chad Cisco

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

This section is titled MDI fault tolerance but includes tolerance of PoDL voltages which is a normal operating condition. On top of it, this compound shall statement potentially makes it difficult to parse the requirements. Suggest to split this into two sections and split the requirements into two shalls.  
 I also took the liberty to rearrange the sentence structure for easier parsing while also fixing some editorial errors.

### SuggestedRemedy

Break 146.8.4 into two sections.  
 REPLACE 146.8.4 with:  
 146.8.4 MDI PoDL voltage tolerance  
 For industrial applications, the wire pair of the MDI shall withstand without damage the application of positive voltages of up to 60 V dc with the source current limited to 1200 mA, under all operating conditions, for an indefinite period of time. This requirement ensures that all devices tolerate PoDL voltages even if the device does not require power.  
 146.8.5 MDI fault tolerance  
 For industrial applications, the wire pair of the MDI shall withstand without damage the application of short circuits of any wire to the other wire of the same pair or ground potential, as per Table 146-8, under all operating conditions, for an indefinite period of time. Normal operation shall resume after the short circuit(s) is/are removed.  
 The wire pair of the MDI shall also withstand without damage high-voltage transient noises and ESD per application requirements. The following table gives an overview about possible connection faults for the wire pair (BI\_DA+ and BI\_DA-):  
 Note: Typically, industrial control circuits are SELV/PELV limited to a maximum voltage of 60 V. The maximum current is limited by the 50-ohm termination resistors in each signal line. Depending on the internal structure of the PHY IC additional external clamping diodes could be necessary. Due to the AC signal coupling the maximum current is only applied while charging the signal coupling capacitors.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.  
 <change is to reference DC power rather than just PoDL> Break 146.8.4 into two sections.

REPLACE 146.8.4 with:

146.8.4 MDI DC Power voltage tolerance

For industrial applications, the wire pair of the MDI shall withstand without damage the application of positive voltages of up to 60 V dc with the source current limited to 1200 mA, under all operating conditions, for an indefinite period of time. This requirement ensures that all devices tolerate DC powering voltages, such as those in Clause 104, even if the device does not require power.

146.8.5 MDI fault tolerance

For industrial applications, the wire pair of the MDI shall withstand without damage the application of short circuits of any wire to the other wire of the same pair or ground potential, as per Table 146-8, under all operating conditions, for an indefinite period of time. Normal operation shall resume after the short circuit(s) is/are removed.

The wire pair of the MDI shall also withstand without damage high-voltage transient noises and ESD per application requirements. The following table gives an overview about possible connection faults for the wire pair (BI\_DA+ and BI\_DA-):

Note: Typically, industrial control circuits are SELV/PELV limited to a maximum voltage of 60 V. The maximum current is limited by the 50-ohm termination resistors in each signal line. Depending on the internal structure of the PHY IC additional external clamping diodes could be necessary. Due to the AC signal coupling the maximum current is only applied while charging the signal coupling capacitors.

CI **146** SC **146.8.4** P **133** L **41** # **449**  
 Ewen, John GlobalFoundries

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

The phrase "The following table" is not a specific reference.

### SuggestedRemedy

Replace "The following table" with "Table 146-8"

Proposed Response Response Status **W**

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.9** P **133** L **52** # **349**  
Yseboodt, Lennart Signify

Comment Type **TR** Comment Status **D** Big Ticket Item Safety

"All equipment subject to this clause shall conform to IEC 60950-1 or IEC 62368-1 (for IT and industrial applications), to IEC 61010-1 (for industrial applications only, if required by the given application)."

Single-pair Ethernet is targeted at a wide diversity of applications. Similarly, 4-pair Ethernet has been used in a wide diversity of applications. The scope and goal of an 802.3 standard is to ensure that two PHYs, connected through a compatible medium, can communicate. It is beyond the scope of this standard to list in detail the 'application', 'installation', or 'end user' requirements that go far beyond PHY interoperability. These are generally untestable and inappropriate in this document.

Only when we are referring to basic electrical safety of the end device is it appropriate to enforce compliant to eg. IEC 60950 or the like.

Regardless of how and where the device is used, it should comply to IEC 60950-1 or IEC 62368-1.

Anything more specific is out of scope for this document.

## SuggestedRemedy

Replace by:

"All equipment subject to this clause shall conform to IEC 60950-1 or IEC 62368-1."

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

Controversial, TFTD

CI **146** SC **146.9.1** P **133** L **52** # **396**  
Jones, Chad Cisco

Comment Type **ER** Comment Status **D** Big Ticket Item Safety

incomplete sentence: "All equipment subject to this clause shall conform to IEC 60950-1 or IEC 62368-1 (for IT and industrial applications), to IEC 61010-1 (for industrial applications only, if required by the given application)." remove the parenthetical and you can see it: "All equipment subject to this clause shall conform to IEC 60950-1 or IEC 62368-1, to IEC 61010-1."

## SuggestedRemedy

the problem here is how to properly write the logic of the sentence. You have shall conform to (A or B) and maybe C. I would recommend that it is broken into two shalls:

All equipment subject to this clause shall conform to IEC 60950-1 or IEC 62368-1 for IT and industrial applications. For industrial applications only, all equipment subject to this clause shall conform to IEC 61010-1, if required by the given application.

Proposed Response Response Status **W**

PROPOSED ACCEPT. - TFTD Controversial

CI **146** SC **146.9.1** P **134** L **20** # **350**  
Yseboodt, Lennart Signify

Comment Type **TR** Comment Status **D** Big Ticket Item Safety

"All equipment subject to this clause may be additionally required to conform to any applicable local, state, or national standards or as agreed to between the customer and supplier."

Customer / supplier relations are out of scope for an 802.3 standard.

## SuggestedRemedy

"All equipment subject to this clause may be additionally required to conform to any applicable local, state, or national standards."

Make the same change in Clause 147.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

See comment i-397 (duplicate)

CI **146** SC **146.9.1** P **134** L **20** # **397**  
Jones, Chad Cisco

Comment Type **TR** Comment Status **D** Big Ticket Item Safety

Agreement between the customer and supplier does not belong in an interoperability spec.

"All equipment subject to this clause may be additionally required to conform to any applicable local, state, or national standards or as agreed to between the customer and supplier." remove this.

## SuggestedRemedy

CHANGE TO: "All equipment subject to this clause may be additionally required to conform to any applicable local, state, or national standards."

Proposed Response Response Status **W**

PROPOSED ACCEPT. - TFTD Controversial

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

SORT ORDER: Clause, Subclause, page, line

CI **146**  
SC **146.9.1**

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# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.9.2** P **134** L **26** # **351**  
Yseboodt, Lennart Signify

Comment Type **TR** Comment Status **D** Big Ticket Item Safety

"All cabling and equipment subject to this clause is expected to be mechanically and electrically secure in a professional manner. In industrial applications, all 10BASE-T1L cabling shall be routed according to any applicable local, state or national standards considering all relevant safety requirements."

Out of scope for an 802.3 standard.

## SuggestedRemedy

Bump Subclause 146.9.2.1 and 146.9.2.2 up by one level (H4).  
Remove subclause 146.9.2.

Make the same change in Clause 147.

Proposed Response Response Status **W**

PROPOSED REJECT.  
This subclause is similar to subclauses in related clauses of 802.3, including clause 96, 97 and 104.

CI **146** SC **146.9.2.1** P **134** L **31** # **352**  
Yseboodt, Lennart Signify

Comment Type **TR** Comment Status **D** Big Ticket Item Safety

"In industrial applications, all equipment subject to this clause shall conform to the potential environmental stresses with respect to their mounting location, as defined in the following specifications, where applicable:  
a) Environmental loads: IEC 60529 and ISO 4892  
b) Mechanical loads: IEC 60068-2-6/31  
c) Climatic loads: IEC 60068-2-1/2/14/27/30/38/52/78  
Industrial environmental conditions are generally more severe than those found in many commercial environments. The targeted application environment(s) require careful analysis prior to implementation."

Out of scope for an 802.3 standard.

## SuggestedRemedy

Remove subclause 146.9.2.1.

Same change in Clause 147.

Proposed Response Response Status **W**

PROPOSED REJECT.  
Statements such as this are found in similar clauses in 802.3. (Controversial)

CI **146** SC **146.9.2.1** P **134** L **35** # **729**  
Maguire, Valerie The Siemon Company

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

IEC 60068-2-6/31 is shorthand for a series of two Standards. A search on IHS for "IEC 60068-2-6/31" yields a null return.

## SuggestedRemedy

Replace, "IEC 60068-2-6/31" with "IEC 60068-2-6 and IEC 60068-2-31"

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **146** SC **146.9.2.1** P **134** L **36** # **730**  
Maguire, Valerie The Siemon Company

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

IEC 60068-2-1/2/14/27/30/38/52/78 is shorthand for a series of eight Standards. A search on IHS for "IEC 60068-2-1/2/14/27/30/38/52/78" yields a null return.

## SuggestedRemedy

Replace, "IEC 60068-2-1/2/14/27/30/38/52/78" with "IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-14, IEC 60068-2-27, IEC 60068-2-30, IEC 60068-2-38, IEC 60068-2-52, and IEC 60068-2-78"

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **146** SC **146.9.2.2** P **134** L **43** # **353**  
Yseboodt, Lennart Signify

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

Complete subclause is out of scope for an 802.3 standard & contains untestable requirements.

## SuggestedRemedy

Remove subclause 146.9.2.2.  
Same change in Clause 147.

Proposed Response Response Status **W**

PROPOSED REJECT.  
Electromagnetic compatibility clauses similar to this are common in 802.3 PHY clauses. This clause is modeled after those for automotive and industrial PHYs.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.9.2.2** P **134** L **43** # **398**  
Jones, Chad Cisco

Comment Type **TR** Comment Status **D** Big Ticket Item Safety

another inappropriate instance of customer and supplier: "In addition, the system may need to comply with more stringent requirements as agreed upon between customer and supplier, for the limitation of electromagnetic interference."

## SuggestedRemedy

CHANGE TO: "In addition, the system may need to comply with more stringent requirements for the limitation of electromagnetic interference."

Proposed Response Response Status **W**

PROPOSED ACCEPT. - TFTD Controversial

CI **146** SC **146.9.2.2** P **134** L **48** # **399**  
Jones, Chad Cisco

Comment Type **ER** Comment Status **D** EZ

missing comma and word AND extra word: "Where applicable, \*also\* testing according to IEC 61326 and NE21 test methods, which are similar \*to\* or even more severe than a MICE E3 environment \*,\* shall be done and the following industrial EMC requirements shall be met:"

## SuggestedRemedy

CHANGE TO: "Where applicable, testing according to IEC 61326 and NE21 test methods, which are similar to or even more severe than a MICE E3 environment, shall be done and the following industrial EMC requirements shall be met:"

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **146** SC **146.9.2.2** P **134** L **49** # **732**  
Maguire, Valerie The Siemon Company

Comment Type **E** Comment Status **X** Late

A search on "NE21" does not produce an identifiable Standard

## SuggestedRemedy

Replace "NE21" with its correct Standard name and also add the reference to clause 1.3.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

Consider with comments marked "Big Ticket Item Safety"

CI **146** SC **146.9.2.2** P **134** L **49** # **731**  
Maguire, Valerie The Siemon Company

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

IEC 61326 is actually a family of six standards (e.g., IEC 61326-1, IEC 61326-2, etc.)

## SuggestedRemedy

Replace "IEC 61326" with whichever of the six Standards are applicable and also add the reference(s) to clause 1.3.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

Consider with comments marked "Big Ticket Item Safety"

CI **146** SC **146.9.2.2** P **135** L **4** # **400**  
Jones, Chad Cisco

Comment Type **TR** Comment Status **D** Big Ticket Item Safety

yet another inappropriate customer and supplier reference. Delete this.

## SuggestedRemedy

delete: ", subject to agreement between the customer and the supplier"

Proposed Response Response Status **W**

PROPOSED ACCEPT. - TFTD Controversial

CI **146** SC **146.11.2.1** P **136** L **21** # **100**  
Anslow, Pete Ciena

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

Comment i-52 against the P802.3bx revision project D3.0 changed all instances of "enquiries" to "inquiries" in the PICS front sheet.

## SuggestedRemedy

Change "enquiries" to "inquiries" in:  
146.11.2.1  
147.12.2.1  
148.5.2.1  
22.3.2.1 (covered in another comment).

Proposed Response Response Status **W**

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.11.2.2** P **136** L **33** # **101**  
 Anslow, Pete Ciena

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

146.11.2.2 should be on the same page as the rest of the PICS initial text.

## SuggestedRemedy

Uncheck "Keep with next" for the heading of 146.11.2.2

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **146** SC **146.11.2.2** P **137** L **4** # **102**  
 Anslow, Pete Ciena

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

"IEEE Std 802.3xx-201x" should be "IEEE Std 802.3cg-201x" in two places.

## SuggestedRemedy

Change "IEEE Std 802.3xx-201x" to "IEEE Std 802.3cg-201x" in two places.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **146** SC **146.11.3** P **137** L **25** # **103**  
 Anslow, Pete Ciena

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

There are two items "EEE" and it is not clear what the difference between them is.

## SuggestedRemedy

If there is intended to be a difference between them, clarify what this is and give them different Item entries.

Otherwise, consolidate them into one row:

"EEE", "Energy-Efficient Ethernet capability", "146.1.1, 78", "", "Yes [ ] No [ ]"

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **146** SC **146.11.3** P **137** L **27** # **104**  
 Anslow, Pete Ciena

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

The convention for PICS items is that when another item depends on whether or not this item is supported, its name is preceded by a "\*\*".

## SuggestedRemedy

In the table in 146.11.3, change:

"AN" to "\*\*AN"

"MDIO" to "\*\*MDIO"

"FAST" to "\*\*FAST"

"RTDL" to "\*\*RTDL"

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **146** SC **146.11.4.2.2** P **141** L **41** # **105**  
 Anslow, Pete Ciena

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

The Item text for PMAE10 through PMAE23 is difficult to read due to being squashed.

## SuggestedRemedy

Increase the width of the Item column and decrease the width of the Feature column to compensate.

Proposed Response Response Status **W**

PROPOSED ACCEPT.



# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.11.4.2.2** P **142** L **3** # **106**  
 Anslow, Pete Ciena

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

The Status entry for Item PMAE12 is:  
 "ANEG:  
 RTDL:  
 MDIO:  
 M"  
 "ANEG" is undefined. This should be "AN"  
 It is not clear what the intent of this entry is.  
 The syntax for multiple elements ORed together used elsewhere (e.g., 104.9.4.4) is similar but different from that used here.  
 The text in 146.5.4.1 does not seem to match ORed elements: Mandatory for Auto-Negotiation or MDIO capability or 2.4 Vpp operating mode.  
 The syntax for multiple elements ANDed together is defined in 21.6.2 as "<item1>\*<item2>:"  
 This seems to fit the text in 146.5.4.1 better (except that it says "If MDIO is not implemented a similar functionality shall be provided by another interface")

## SuggestedRemedy

If the intent is for the conditions to be ANDed, then change the Status entry for Item PMAE12 to:  
 "AN\*  
 RTDL\*  
 MDIO:M"  
 If the intent is otherwise, change to some other valid entry such as:  
 "AN:M  
 RTDL:M  
 MDIO:M"  
 Increase the width of the Status column (in all of the PICS tables) and decrease the width of the Status column to compensate, so that individual elements such as MDIO:M do not wrap.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **146** SC **146.11.4.3** P **143** L **15** # **107**  
 Anslow, Pete Ciena

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

The Status entry for Item MI3 is:  
 "ANEG:  
 MDIO:  
 M"  
 "ANEG" is undefined. This should be "AN"  
 It is not clear what the intent of this entry is.  
 The syntax for multiple elements ORed together used elsewhere (e.g., 104.9.4.4) is similar but different from that used here.  
 The text in 146.6.2 seems to match ORed elements: Mandatory for Auto-Negotiation or MDIO capability.  
 Alternatively, the syntax for multiple elements ANDed together is defined in 21.6.2 as "<item1>\*<item2>:"

## SuggestedRemedy

If the intent is for the conditions to be ORed, then change the Status entry for Item MI3 to:  
 "AN:M  
 MDIO:M"  
 If the intent is otherwise, change to some other valid entry such as:  
 "AN\*  
 MDIO:M"  
 Increase the width of the Status column (in all of the PICS tables) and decrease the width of the Status column to compensate, so that individual elements such as MDIO:M do not wrap.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **146** SC **146.11.4.4** P **143** L **32** # **108**  
 Anslow, Pete Ciena

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

All of the items in 146.11.4.4 have the same entry in the Item column.

## SuggestedRemedy

Re-number them to be LMF1 through LMF5

Proposed Response Response Status **W**

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.11.4.4** P **143** L **34** # **109**  
Anslow, Pete Ciena

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

According to the rules set out in:  
http://www.ieee802.org/3/WG\_tools/editorial/requirements/words.html#numbers  
"In text, where this improves clarity, follow the IEEE Editorial Style Manual: Use spaces instead of commas between numbers in tens or hundreds of thousands (e.g., 62 000, 100 000, but 4000)."  
Despite these being table entries, they are in the form of text, so it seems appropriate to use this version of the rule.

## SuggestedRemedy

In the third item LMF1 (should be LMF3) remove the space used as a thousands separator in 8 834.

Proposed Response Response Status **W**  
PROPOSED ACCEPT.

CI **146** SC **146.11.4.4** P **143** L **38** # **110**  
Anslow, Pete Ciena

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

"10BASE-T1L" should not be split across two lines.

## SuggestedRemedy

Replace the hyphen with a non-breaking hyphen (Esc, -, h) (three key presses) in 4 places in 146.11.4.4.

Proposed Response Response Status **W**  
PROPOSED ACCEPT.

CI **146** SC **146.20** P **199** L **34** # **143**  
Anslow, Pete Ciena

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

The number for an IEC standard should be preceded by "IEC"

## SuggestedRemedy

Change "and 60079-11" to "and IEC 60079-11" here and on page 201, line 1

Proposed Response Response Status **W**  
PROPOSED ACCEPT.

CI **146** SC **146.20** P **200** L **24** # **129**  
Anslow, Pete Ciena

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

In the title of Figure 146A-1: "First possible implementation on intrinsically safe power feeding side" the word "side" is not needed.  
Is this word also present in the title of Figure 146A-2 but wrapped out of sight?

## SuggestedRemedy

In the title of Figure 146A-1, delete "side".  
Is this word also present in the title of Figure 146A-2 delete it there also.

Proposed Response Response Status **W**  
PROPOSED ACCEPT.

CI **146** SC **146.20** P **200** L **50** # **130**  
Anslow, Pete Ciena

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

Notes start with "NOTE-" i.e., an em-dash and no spaces before the first word of the note.  
Also, the wording of this note should be improved.

## SuggestedRemedy

Change:  
"Note: Likely the second version is easier to implement within a PHY IC as the hybrid within the PHY IC needs not to be adopted to different external resistor values." to:  
"NOTE-The version shown in Figure 146A-2 is probably easier to implement within a PHY IC as the hybrid within the PHY IC does not need to adapt to different external resistor values."

Proposed Response Response Status **W**  
PROPOSED ACCEPT IN PRINCIPLE. Change:  
"Note: Likely the second version is easier to implement within a PHY IC as the hybrid within the PHY IC needs not to be adopted to different external resistor values." to:  
"NOTE-The version shown in Figure 146A-2 may be easier to implement within a PHY IC as the hybrid within the PHY IC does not need to adapt to different external resistor values."

CI **146** SC **146.20.1.1** P **203** L **27** # **698**  
Xu, Dayin Rockwell Automation

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

Repeteated text" DC Powering link sections" in Figure 146B-1

## SuggestedRemedy

Delete one " DC Powering link sections"

Proposed Response Response Status **W**  
PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146.20.1.1.1** P **204** L **16** # **420**  
 Jones, Chad Cisco  
 Comment Type **ER** Comment Status **D** EZ  
 commas in table that should be decimals  
 SuggestedRemedy  
 the rows for 18 and 19AWG, CHANGE "0,0233" to "0.0233" and "0,0294" to "0.0294"  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

CI **146** SC **146.20.1.2** P **204** L **32** # **421**  
 Jones, Chad Cisco  
 Comment Type **ER** Comment Status **D** EZ  
 "The spur link sections provides power..." Spur Link sections PROVIDE power  
 SuggestedRemedy  
 CHANGE TO: "The spur link sections provide power."  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

CI **146** SC **146.20.B.1.1** P **203** L **26** # **686**  
 Donahue, Curtis UNH-IOL  
 Comment Type **E** Comment Status **D** EZ  
 Duplicated text "DC powering link sections".  
 SuggestedRemedy  
 Remove one of the "DC powering link sections" instances.  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Resolve with comment#698

CI **146** SC **146A.1** P **199** L **34** # **737**  
 Maguire, Valerie The Siemon Company  
 Comment Type **E** Comment Status **D** Late  
 Incomplete Standards reference.  
 SuggestedRemedy  
 Replace, "60079-11" with "IEC 60079-11"  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

CI **146** SC **146A.1** P **201** L **1** # **727**  
 Maguire, Valerie The Siemon Company  
 Comment Type **E** Comment Status **D** Late  
 Incomplete Standards reference.  
 SuggestedRemedy  
 Replace, "60079-11" with "IEC 60079-11"  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

CI **146** SC **146B** P **205** L **11** # **254**  
 Graber, Steffen Pepperl+Fuchs GmbH  
 Comment Type **E** Comment Status **D** EZ  
 [EASY] No spaces between numbers and units in Figure 146B-2.  
 SuggestedRemedy  
 Add spaces between numbers and units in Figure 146B-2.  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

CI **146** SC **146B** P **205** L **12** # **255**  
 Graber, Steffen Pepperl+Fuchs GmbH  
 Comment Type **E** Comment Status **D** EZ  
 [EASY] dcpower  
 SuggestedRemedy  
 dc power (add space)  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **146** SC **146B.1.1.1** P **204** L **10** # **131**  
 Anslow, Pete Ciena

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

1.2.6 of the base standard says "Unless otherwise stated, numerical limits in this standard are to be taken as exact, with the number of significant digits and trailing zeros having no significance."

Also, two of the numbers have a comma instead of a decimal point.

## SuggestedRemedy

Remove the trailing zeros from the numbers in Table 146B-1.  
 Change "0,0233" to "0.0233" and change "0,0294" to "0.0294"

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **146** SC **146B.1.2** P **205** L **11** # **132**  
 Anslow, Pete Ciena

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

The text in Figure 146B-2 does not have a space between a number and its unit in multiple places.

Also, the IEEE Style Manual says:

"Ranges should repeat the unit (e.g., 115 V to 125 V). Dashes should never be used because they can be misconstrued as subtraction signs."

## SuggestedRemedy

Change "48V" to "48 V"

Change "14-18 AWG cable," to "14 AWG to 18 AWG cable,"

Change "24V dcpower" to "24 V dc power"

Change "1000m" to "1000 m"

Change "12V" to "12 V" in 2 places

Change "200m" to "200 m" in 2 places

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **146** SC **Tabl 148-8** P **107** L **10** # **260**  
 Andre, Szczepanek HSZ Consulting

Comment Type **ER** Comment Status **D** PCS

variable "scr\_status = OK " is used in exit from WAIT\_SCRAMBLER state but is not defined in 146.3.4.1.1 "Variables"

## SuggestedRemedy

Add definition of scr\_status to 146.3.4.1.1

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

Copy definition from 146.4.4.1 (P116 L33) into 146.3.4.1.1

CI **147** SC **147** P **145** L **1** # **659**  
 Thompson, Geoff GraCaSI S.A.

Comment Type **TR** Comment Status **D** Big Ticket Item AUI

There is no AUI defined in the draft. The AUI is an essential element of all 802.3 10 Mb/s PHY specifications. This is particularly true in the case of half duplex applications where it is used as a timing test point for calculating the delay used in CSMA/CD round trip timing sums (Ref: Table 4-2). An AUI definition point is also needed (even if it never appears externally on a piece of equipment) in order to be able to include the cl. 9 repeater in networking configurations. Even though (almost) no one else remembers it or thinks it is relevant, the c. 9 repeater is a valuable tool in the network kit. It has a very, very low transistor count when compared to a bridge and much lower delay (~ 9 bit times) and jitter (not dependent on packet length) such that it is a superior element for time sensitive applications in terms of cost and performance.

## SuggestedRemedy

Define and specify the AUI (no connector specification required) for the 10BASE-T1S PHY for use as a functional test point, a timing test point and a standardized element edge for IP implementations of the PHY.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

The desirability of repeaters in 10BASE-T1S networks as follows:

- If repeaters are desired, an AUI needs to be defined
- Otherwise insert the following new paragraph to the end of "147.1 Overview" "For 10BASE-T1S repeaters are not defined, therefore AUI definition is out of scope of this clause."

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147 P 145 L 1 # 660  
Thompson, Geoff GraCaSI S.A.

Comment Type T Comment Status D General

I'm not convinced that the additional complexity of 4B/5B encoding and the scrambler are necessary to meet the operating environment requirements or are worth the extra silicon space in an environment where transistor count and delay still matter at this level.

## SuggestedRemedy

Convince me.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

4B/5B is part of the baseline, having been selected for the following reasons:

- Increased alphabet gives space for special symbols (SSD, SYNC, ESD, ESDERR, BEACON) and future researvations
- Increased bandwidth requirement (+25%) does not pose issues at this low rate, besides this helps reducing the size of the inductors required for PoDL.
- Clock and data recovery primitive over 4B/5B is simple, which was in-line with project target (of having a low complexity PHY)
- 5/4 clock ratio permits the usage of common 25MHz XTAL

Information about the scrambler can be found at

[http://www.ieee802.org/3/cg/public/adhoc/beruto\\_3cg\\_scrambler.pdf](http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_scrambler.pdf)

If commenter is not convinced, he is requested to argue against 4B/5B and bring forth a competing proposal

CI 147 SC 147 P 164 L 4 # 13  
Huszak, Gergely Kone

Comment Type E Comment Status D EZ

The "value unit +/- tolerance\_value tolerance\_unit" format of literals is not harmonized everywhere

## SuggestedRemedy

Make sure all places the following format (not all parts are always present):

valueNBSunitNBS+/-NBStolerance\_valueNBStolerance\_unit

where:

- NBS is a non-breaking space
- +/- is the single-character version

Proposed Response Response Status W

PROPOSED ACCEPT.

See also #244

CI 147 SC 147.1 P L 19 # 636  
Thompson, Geoff GraCaSI S.A.

Comment Type ER Comment Status D EZ

Missing article, also since this is the first use of the term DME, the full expansion of it should be moved here from line 49.

## SuggestedRemedy

Change text to read: "The Differential Manchester Encoding (DME) based..." and adjust the text in line 49 appropriately.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 147 SC 147.1 P L 22 # 637  
Thompson, Geoff GraCaSI S.A.

Comment Type TR Comment Status D ig Ticket Item PLCA\_SCOPE

The inclusion of PLCA in this project is (1) a layer violation and (2) out of scope for a Physical Layer project according to clause 1.1 of the standard. Inclusion of PLCA conflicts with paragraph 3 of the responses to the "Compatibility" criteria of the CSD.

## SuggestedRemedy

Remove this paragraph from the draft and related text from this project. If PLCA is desired as an addition to the standards family it should be placed appropriately within the layer structure and have its own CFI.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

CI 147 SC 147.1 P 145 L 10 # 676  
Donahue, Curtis UNH-IOL

Comment Type E Comment Status D EZ

This paragraph is nearly identical to that in 146.1, but with a small change in the last sentence. suggest making these paragraphs consistent.

## SuggestedRemedy

Change "10BASE-T1S PCS and PMA." to "10BASE-T1S PCS, PMA and MDI."

Proposed Response Response Status W

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.1 P 145 L 12 # 194  
 Graber, Steffen Pepperl+Fuchs GmbH  
 Comment Type E Comment Status D EZ  
 [EASY] full/half-duplex  
 SuggestedRemedy  
 full-/half-duplex  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 147 SC 147.1 P 145 L 16 # 488  
 Jones, Peter Cisco  
 Comment Type E Comment Status D EZ  
 Replace "allowing implementers to provide their own cabling" with "allowing implementers to specify their own cabling".  
 SuggestedRemedy  
 Make suggested change  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 147 SC 147.1 P 145 L 19 # 195  
 Graber, Steffen Pepperl+Fuchs GmbH  
 Comment Type E Comment Status D EZ  
 [EASY] . inherently energy efficient and without the need ..  
 SuggestedRemedy  
 . inherently energy efficient, without the need . (add comma and remove "and")  
 Proposed Response Response Status W  
 Already dealt with by #677

CI 147 SC 147.1 P 145 L 19 # 677  
 Donahue, Curtis UNH-IOL  
 Comment Type E Comment Status D EZ  
 This paragraph seems to be justifying why there isn't an optional EEE feature specified for 10BASE-T1S. While informative to the reader, it is unnecessary.  
 SuggestedRemedy  
 Suggest removing paragraph from line 19 to 20.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 147 SC 147.1 P 145 L 19 # 489  
 Jones, Peter Cisco  
 Comment Type TR Comment Status D EZ  
 no idle symbols, replace "silent during idle symbols making it inherently" with "silent during idle making it inherently"  
 SuggestedRemedy  
 Make suggested change  
 Proposed Response Response Status W  
 Already dealt with by #677

CI 147 SC 147.1 P 145 L 19 # 375  
 Matheus, Kirsten BMW AG  
 Comment Type E Comment Status D EZ  
 is "idle symbols" the right word?  
 SuggestedRemedy  
 I suggest to use "idle time" or "idle period" or "IDLE"  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.  
 Already dealt with by #677

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **147** SC **147.1** P **145** L **24** # **665**  
Donahue, Curtis UNH-IOL  
Comment Type **E** Comment Status **D** EZ  
"multi-drop" should be "multidrop"  
SuggestedRemedy  
Change "multi-drop" to "multidrop"  
Proposed Response Response Status **W**  
PROPOSED ACCEPT.

CI **147** SC **147.1.1** P L **26** # **638**  
Thompson, Geoff GraCaSI S.A.  
Comment Type **TR** Comment Status **D** EZ  
The text and Fig 147-1 do not align to Fig 1-1 of the standard which is intended to comprehensively cover 802.3.  
SuggestedRemedy  
Remove Fig 147-1 and reference Fig 1-1 or duplicate the 10 Mb/s portion of 1.1 here. Alter the implementation of 10BASE-T1S to align to the 1.1 model.  
Proposed Response Response Status **W**  
PROPOSED REJECT.

CI **147** SC **147.1.1** P **145** L **30** # **282**  
KIM, YONG NIO  
Comment Type **TR** Comment Status **D** General  
AN is not defined for 10BASE-T1S PHY in HD in multidrop mode. How does PHY know it's in that mode? What happens one PHY is not in multidrop mode, connected to the multidrop segment, or connected with null segment? Management is optional. Duplexness is associated with MAC  
SuggestedRemedy  
Please clarify.  
Proposed Response Response Status **W**  
PROPOSED ACCEPT IN PRINCIPLE.  
Replace "Auto-Negotiation for 10BASE-T1S is defined in Clause 98. MII is defined in Clause 22. Auto negotiation is not defined for 10BASE-T1S PHY operating in half-duplex multidrop mode." to "Auto-Negotiation for 10BASE-T1S is defined in Clause 98. MII is defined in Clause 22. Auto negotiation is not defined for 10BASE-T1S PHY operating in half-duplex multidrop mode." to "Auto-Negotiation for 10BASE-T1S is defined in Clause 98, and it is available only while not in multidrop mode. Selection between multidrop and point-to-point mode is made via the appropriate configuration bit. MDIO is defined in Clause 45, and it is optional, but management isn't. MII is defined in Clause 22."

CI **147** SC **147.1.1** P **145** L **31** # **196**  
Grabner, Steffen Pepperl+Fuchs GmbH  
Comment Type **E** Comment Status **D** EZ  
[EASY] Auto negotiation is not defined for 10BASE-T1S PHY .  
SuggestedRemedy  
Auto-Negotiation is not defined for a 10BASE-T1S PHY . (correct Auto-Negotiation and add "a" before 10BASE-T1S)  
Proposed Response Response Status **W**  
PROPOSED ACCEPT.

CI **147** SC **147.1.2** P L **46** # **639**  
Thompson, Geoff GraCaSI S.A.  
Comment Type **ER** Comment Status **D** EZ  
Non-normative marketing BS that adds nothing to the technical content of the standard.  
SuggestedRemedy  
Delete this paragraph.  
Proposed Response Response Status **W**  
PROPOSED ACCEPT.

CI **147** SC **147.1.2** P L **46** # **640**  
Thompson, Geoff GraCaSI S.A.  
Comment Type **ER** Comment Status **D** EZ  
Desktop application are an equally valid application area for this proposed standard  
SuggestedRemedy  
Add "desktop" to this list of applications in the paragraph you are going to delete.  
Proposed Response Response Status **W**  
PROPOSED ACCEPT IN PRINCIPLE.  
Already dealt with by #639

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.1.2 P L 46 # 641  
Thompson, Geoff GraCaSI S.A.

Comment Type TR Comment Status D EZ

Out of band signaling is beyond the scope of clause 1.1 and therefore outside the scope of the PAR.

## SuggestedRemedy

Remove "Out of Band Signaling" from the draft

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Change "perform out-of-band signaling" to "perform signaling"

CI 147 SC 147.1.2 P 86 L 146 # 561  
D'Ambrosia, John Futurewei, Subsidiary

Comment Type E Comment Status D General

Consider adding a table that maps the different functions in the stack to the respective clauses which then notes whether the respective clause is optional or mandatory. This greatly helps the reader.

## SuggestedRemedy

Reference Table 116-3 as example

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
No change to the text: we have only a single PCS/PMA/PMD per clause and they are all contained in the same clause. We are not writing a standard for the entire 10 Mbps PHY family. We are writing just for single pair PCS/PMA/PMDs, with an optional RS.

CI 147 SC 147.1.2 P 145 L 36 # 401  
Jones, Chad Cisco

Comment Type ER Comment Status D EZ

"The 10BASE-T1S PHY may operate using full-duplex or half-duplex point-to-point communications on a link segment using a single balanced pair of conductors and supporting up to four in-line connectors and up to at least 15 meters with an effective rate of 10 Mb/s in each direction simultaneously." need comma usage fixes.

## SuggestedRemedy

CHANGE TO: "The 10BASE-T1S PHY may operate using full-duplex or half-duplex point-to-point communications on a link segment using a single balanced pair of conductors, supporting up to four in-line connectors and up to at least 15 meters, with an effective rate of 10 Mb/s in each direction simultaneously."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Change:

====

The 10BASE-T1S PHY may operate using full-duplex or half-duplex point-to-point communications on a link segment using a single balanced pair of conductors and supporting up to four in-line connectors and up to at least 15 meters with an effective rate of 10 Mb/s in each direction simultaneously.

====

to

====

The 10BASE-T1S PHY may operate using full-duplex or half-duplex point-to-point communications on a link segment using a single balanced pair of conductors, supporting up to four in-line connectors and up to at least 15 meters in reach, with an effective rate of 10 Mb/s in each direction simultaneously.

====

Note: the 2 non-breaking white-spaces



# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.1.2 P 145 L 37 # 679  
Donahue, Curtis UNH-IOL

Comment Type E Comment Status D EZ

Clause 147 uses several similar terms to describe the channel the 10BASE-T1S is specified for. Observed terms are:

"single balanced pair of conductors" - CL:147.1.2 P:145 L:37  
"single twisted-pair copped cable" - CL:147.1.2 P:145 L:41  
"single balanced pair" - CL:147.4.3 P:161 L:20&21  
"single balanced pair cabling" - CL:147.8 P:167 L:25

## SuggestedRemedy

Suggest scrubbing Clause 147 and making all references to the channel consistent.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Use "single balanced pair of conductors" everywhere

CI 147 SC 147.1.2 P 145 L 38 # 197  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ

[EASY] . at least 15 meters .

## SuggestedRemedy

. at least 15 meters cable .

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Already dealt with by #401

CI 147 SC 147.1.2 P 145 L 41 # 198  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ

[EASY] . interconnecting up to at least 8 PHYs, to a trunk up to .

## SuggestedRemedy

. interconnecting up to at least 8 PHYs to a trunk up to . (remove comma)

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Change:

====

least 8 PHYs, to a trunk up to at least 25 m.

====

to

====

least 8 PHYs to a trunk up to at least 25 m in reach.

====

Note: the 2 non-breaking white-spaces

CI 147 SC 147.1.2 P 145 L 41 # 430  
Wienckowski, Natalie General Motors

Comment Type E Comment Status D EZ

still have twisted-pair

## SuggestedRemedy

Change "single balanced twisted-pair copper cable" to "single balanced pair of conductors".

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Already dealt with by #679

CI 147 SC 147.1.2 P 145 L 41 # 689  
Xu, Dayin Rockwell Automation

Comment Type E Comment Status D EZ

Should not use "single twisted-pair copper cable"

## SuggestedRemedy

Change ". using a single twisted-pair copper cable ..." to ". using a single balanced pair of conductors ."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Already dealt with by #679

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

Cl 147 SC 147.1.2 P 145 L 42 # 199  
 Graber, Steffen Pepperl+Fuchs GmbH  
 Comment Type E Comment Status D EZ  
 [EASY] . at the end of stubs up to 10 cm.  
 SuggestedRemedy  
 . at the end of stubs with a length of up to 10 cm.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 147 SC 147.1.2 P 145 L 46 # 200  
 Graber, Steffen Pepperl+Fuchs GmbH  
 Comment Type E Comment Status D EZ  
 Should we talk in any way about "low cost" here?  
 SuggestedRemedy  
 If it is ok to do so, keep this paragraph in, otherwise just remove the paragraph.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Already dealt with by #639

Cl 147 SC 147.1.2 P 145 L 46 # 380  
 Jones, Chad Cisco  
 Comment Type E Comment Status D EZ  
 "low cost" should be "low-cost"  
 SuggestedRemedy  
 CHANGE TO: "low-cost"  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Already dealt with by #639

Cl 147 SC 147.1.2 P 145 L 46 # 152  
 Lewis, Jon Dell EMC  
 Comment Type E Comment Status D EZ  
 Sentence doesn't add value to the specification and provides no new information to the reader.  
 SuggestedRemedy  
 Remove the sentence.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.  
 Already dealt with by #639

Cl 147 SC 147.1.2 P 145 L 46 # 678  
 Donahue, Curtis UNH-IOL  
 Comment Type E Comment Status D EZ  
 Not sure what the intent of this paragraph is. Only contains text suggesting markets that a 10BASE-T1S PHY can be applied.  
 SuggestedRemedy  
 Suggest removing paragraph from line 46 to 47.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.  
 Already dealt with by #639

Cl 147 SC 147.1.2 P 145 L 46 # 490  
 Jones, Peter Cisco  
 Comment Type TR Comment Status D EZ  
 Many parts of the text missing building automation as an application.. Replace "industrial, automotive and automation controls" with "industrial, automotive and building automation controls".  
 SuggestedRemedy  
 Make suggested change  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Already dealt with by #639

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **147** SC **147.1.2** P **146** L **2** # **201**  
 Graber, Steffen Pepperl+Fuchs GmbH  
 Comment Type **E** Comment Status **D** EZ  
 [EASY] . are contained in the PCS .  
 SuggestedRemedy  
 . are contained within the PCS .  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

CI **147** SC **147.1.2** P **146** L **20** # **440**  
 Wienckowski, Natalie General Motors  
 Comment Type **T** Comment Status **D** EZ  
 The shaded boxes are supposed to represent PHY sublayers. The MDI is not a PHY sublayer.  
 SuggestedRemedy  
 Remove the shading from the MDI box in Figure 147-1.  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT IN PRINCIPLE.  
 TODO: Harmonize 147-1 to 1-1  
 Note: "Figure 1-1-IEEE 802.3 standard relationship to the ISO/IEC Open Systems Interconnection (OSI) reference model" does have shading (even more extensive and in different style)

CI **147** SC **147.2** P L **34** # **642**  
 Thompson, Geoff GraCaSI S.A.  
 Comment Type **TR** Comment Status **D** Big Ticket Item Primitives  
 The claim is that this PHY uses the MII, the reference to 40.2 is to the GMII  
 SuggestedRemedy  
 Change the reference to an MII clause and use the same primitives as existing 10/100 PHYs without alteration.  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT IN PRINCIPLE.  
 TFTD  
 Reference identical to that in c96 100BASE-T1  
 This is a reference to "Service primitives and interfaces", not MII

CI **147** SC **147.2** P **147** L # **714**  
 Kabra, Lokesh Synopsys Inc  
 Comment Type **E** Comment Status **D** EZ  
 CRS & COL signals missing in Figure 147-2  
 SuggestedRemedy  
 Add CRS, COL signals towards MII in Fig 147-2  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

CI **147** SC **147.2** P **147** L **4** # **204**  
 Graber, Steffen Pepperl+Fuchs GmbH  
 Comment Type **T** Comment Status **D** Big Ticket Item AutoNeg  
 Optional PMA\_LINK.request and PMA\_LINK.indication signals and optional Technology Dependent Interface are missing in Figure 147-2.  
 SuggestedRemedy  
 Please add optional PMA\_LINK.request and PMA\_LINK.indication signals and optional Technology Dependent Interface (needed for optional Auto-Negotiation in point-to-point mode, the text in 147.1 has been interpreted that Auto-Negotiation for point-to-point links is optionally available, as it is only explicitly stated, that Auto-Negotiation is not supported for mixing segments).  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT IN PRINCIPLE.  
 WORK WITH PIER ON THIS (WE CAN NOT REJECT)

CI **147** SC **147.2** P **147** L **4** # **203**  
 Graber, Steffen Pepperl+Fuchs GmbH  
 Comment Type **T** Comment Status **D** EZ  
 BI\_DA+/BI\_DA- signal is missing in Figure 147-2  
 SuggestedRemedy  
 Please add bidirectional differential signal BI\_DA+/BI\_DA- between PMA and MDI.  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Already dealt with by #376

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **147** SC **147.2** P **147** L **4** # **202**  
 Graber, Steffen Pepperl+Fuchs GmbH

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

COL and CRS signals are missing in Figure 147-2.

## SuggestedRemedy

Please add signals COL and CRS leading from the PCS to the MII.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **147** SC **147.2** P **147** L **6** # **376**  
 Matheus, Kirsten BMW AG

Comment Type **ER** Comment Status **D** EZ

The MDIO arrow in the picture is missing an arrow head in the other direction. The output from the PMA is missing. I am not sure, but should not be the COL and CRS be added?

## SuggestedRemedy

MDIO arrow heads in both directions. Add BI\_DA+ and BI\_DA- to the PMA. Potentially dashed COL and CRS from PCS.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.  
 TODO:

- Add bidi MDIO arrows to both 147-2 and 147-3
- Add BI\_DA+ and BI\_DA- (steal from 147-10)
- Add dashed COL, CRS and PCS

CI **147** SC **147.2** P **147** L **33** # **690**  
 Xu, Dayin Rockwell Automation

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

Lack of COL and CRS signals on MII interface side in the figure 147-2

## SuggestedRemedy

Add COL and CRS signals into the MII interface in Figure 147-2

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **147** SC **147.3.1** P **P** L **3** # **643**  
 Thompson, Geoff GraCaSI S.A.

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

It is not clear from the description whether "PCS Reset" produces a level or a pulse on its output. i.e. does it take a !PCS Reset to complete the reset and release the device for operation.

## SuggestedRemedy

Clarify

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.  
 WORK WITH PIER ON THIS  
 Change this:  
 =====

PCS reset initializes all PCS functions. The PCS Reset function shall be executed whenever one of the following conditions occur:

- a) Power on (see 36.2.5.1.3).
  - B) The receipt of a request for reset from the management entity.
- PCS Reset shall set pcs\_reset = ON while any of the above reset conditions holds true. All state diagrams take the open-ended pcs\_reset branch upon execution of PCS Reset. The reference diagrams do not explicitly show the PCS Reset function.

=====

to this:

PCS reset initializes all PCS functions. The PCS Reset function shall be executed whenever any of the following conditions occur:

- a) Power on causes power\_on = TRUE (see 36.2.5.1.3) while pcs\_reset = OFF.
  - B) The receipt of a request for reset from the management entity (see 3.2291.15 in 45.2.3.58e.1), independently from the current state of pcs\_reset.
- All state diagrams take the open-ended pcs\_reset branch upon execution of PCS Reset. PCS Reset shall keep pcs\_reset = ON until the complete execution of the PCS Reset function, after which it is set to pcs\_reset = OFF. The reference diagrams do not explicitly show the PCS Reset function.

=====

CI **147** SC **147.3.1** P **148** L **14** # **205**  
 Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] Connection dots in Figure 147-3 are missing.

## SuggestedRemedy

Please add signal nets connection dots to Figure 147-3.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **147** SC **147.3.2** P **152** L **34** # **693**  
 Xu, Dayin Rockwell Automation

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

Better to move "tx\_sym <= SSD" before "err <= err + pcs\_txer" to make the sequence consistent with other status (e.g. SILENT and SYNC1)

## SuggestedRemedy

move "tx\_sym <= SSD" before "err <= err + pcs\_txer"

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **147** SC **147.3.2** P **152** L **42** # **534**  
 Beruto, Piergiorgio Canova Tech Srl

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

[MASTER] [JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

## SuggestedRemedy

In figure 147-4, add the following action into SSD2 state box: "restart XMIT\_MAX\_TIMER"

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

See [http://www.ieee802.org/3/cg/public/adhoc/beruto\\_3cg\\_T1S\\_jabber.pdf](http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_T1S_jabber.pdf)

CI **147** SC **147.3.2** P **153** L **13** # **535**  
 Beruto, Piergiorgio Canova Tech Srl

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

[JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

## SuggestedRemedy

In figure 147-5, in transition from "DATA" to "ESD" state replace "STD \* pcs\_txen = FALSE" condition with "STD \* (pcs\_txen = FALSE + XMIT\_MAX\_TIMER done)"

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

See [http://www.ieee802.org/3/cg/public/adhoc/beruto\\_3cg\\_T1S\\_jabber.pdf](http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_T1S_jabber.pdf)

CI **147** SC **147.3.2** P **153** L **14** # **536**  
 Beruto, Piergiorgio Canova Tech Srl

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

[JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

## SuggestedRemedy

In figure 147-5, in recirculating arc of DATA state replace "STD \* pcs\_txen = TRUE" condition with "STD \* pcs\_txen = TRUE \* XMIT\_MAX\_TIMER not done"

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

See [http://www.ieee802.org/3/cg/public/adhoc/beruto\\_3cg\\_T1S\\_jabber.pdf](http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_T1S_jabber.pdf)

CI **147** SC **147.3.2** P **153** L **21** # **537**  
 Beruto, Piergiorgio Canova Tech Srl

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

[JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

## SuggestedRemedy

In figure 147-5, in transition from "ESD" to "BAD\_ESD" state replace "STD \*err = TRUE" condition with "STD \* (err = TRUE + XMIT\_MAX\_TIMER done)"

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

See [http://www.ieee802.org/3/cg/public/adhoc/beruto\\_3cg\\_T1S\\_jabber.pdf](http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_T1S_jabber.pdf)

CI **147** SC **147.3.2** P **153** L **25** # **538**  
 Beruto, Piergiorgio Canova Tech Srl

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

[JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

## SuggestedRemedy

In figure 147-5, in state BAD\_ESD replace "tx\_sym <= ESDERR" statement with  
 "if err = TRUE  
 <tab> tx\_sym <= ESDERR  
 else  
 <tab> tx\_sym <= ESDJAB"

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

See [http://www.ieee802.org/3/cg/public/adhoc/beruto\\_3cg\\_T1S\\_jabber.pdf](http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_T1S_jabber.pdf)

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **147** SC **147.3.2** P **153** L **31** # **539**  
Beruto, Piergiorgio Canova Tech Srl

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

[JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

## SuggestedRemedy

Add new state "UNJAB\_WAIT" with the following content "tx\_sym <= SILENCE  
restart UNJAB\_TIMER"

Add transition from "BAD\_ESD" to "UNJAB\_WAIT" state with the following condition: "STD  
\* XMIT\_MAX\_TIMER\_DONE"

Add transition from "UNJAB\_WAIT" to "B" state with the following optional condition:  
"(optional) STD \* pcs\_txen = FALSE \* UNJAB\_TIMER\_DONE"

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

See [http://www.ieee802.org/3/cg/public/adhoc/beruto\\_3cg\\_T1S\\_jabber.pdf](http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_T1S_jabber.pdf)

CI **147** SC **147.3.2.1** P L **18** # **644**  
Thompson, Geoff GraCaSI S.A.

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

Text for the character to foolow ESD is unclear.

## SuggestedRemedy

Following the deassertion of TX\_EN, the PCS Transmit generates a special code ESD.  
When a transmit error has been encountered the ESD is followed by either ESDOK or  
ESDERR per the state machine shown in Figure 147-5.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **147** SC **147.3.2.1** P **149** L **5** # **402**  
Jones, Chad Cisco

Comment Type **ER** Comment Status **D** PCS

more than one state diagram, fix comma: "The PCS Transmit function shall conform to the  
PCS Transmit state diagram\*s\* in Figure 147-4 and  
Figure 147-5,\*delete comma\* and the associated state variables, functions,  
timers\*comma\* and messages."

Now that I look at the "state diagrams" it really is just one state diagram but strewn across  
two figures. This is wrong. The state diagram can be one figure that spans more than one  
page. change "Figure 147-5" (page 153, line 37) to "Figure 147-4 (continued)".

## SuggestedRemedy

CHANGE TO: "The PCS Transmit function shall conform to the PCS Transmit state  
diagram in Figure 147-4 and the associated state variables, functions, timers, and  
messages."

and CHANGE "Figure 147-5" to "Figure 147-4 (continued)". Also, search doc and delete  
any other occurrences of "Figure 147-5", for example page 150, line 15.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

TODD:

- Rename "Figure 147-4-PCS Transmit state diagram (1 of 2)" to "Figure 147-4-PCS  
Transmit state diagram (part a)"

- Rename "Figure 147-5-PCS Transmit state diagram (2 of 2)" to "Figure 147-5-PCS  
Transmit state diagram (part b)"

Note: clauses 146 and 148 (148-4/5) is also affected

CI **147** SC **147.3.2.1** P **149** L **13** # **691**  
Xu, Dayin Rockwell Automation

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

Delete "a group of"

## SuggestedRemedy

Change ". passes a group of two SYNC ." to ". passes two SYNC ..."

Proposed Response Response Status **W**

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

Cl 147 SC 147.3.2.1 P 149 L 14 # 206  
 Graber, Steffen Pepperl+Fuchs GmbH  
 Comment Type E Comment Status D EZ  
 [EASY] replaces  
 SuggestedRemedy  
 replace (plural)  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 147 SC 147.3.2.1 P 149 L 14 # 403  
 Jones, Chad Cisco  
 Comment Type E Comment Status D EZ  
 "followed by two SSD symbols which replaces the first 16 bits of the packet preamble"  
 symbols replace the first.  
 SuggestedRemedy  
 CHANGE TO: "followed by two SSD symbols which replace the first 16 bits of the packet preamble"  
 Proposed Response Response Status W  
 PROPOSED REJECT.  
 Already dealt with by #206

Cl 147 SC 147.3.2.1 P 149 L 19 # 542  
 Beruto, Piergiorgio Canova Tech Srl  
 Comment Type T Comment Status D Jabber  
 [JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.  
 SuggestedRemedy  
 Replace "ESDERR" with "ESDERR / ESDJAB"  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 TFTD  
 See [http://www.ieee802.org/3/cg/public/adhoc/beruto\\_3cg\\_T1S\\_jabber.pdf](http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_T1S_jabber.pdf)

Cl 147 SC 147.3.2.1 P 149 L 21 # 207  
 Graber, Steffen Pepperl+Fuchs GmbH  
 Comment Type E Comment Status D EZ  
 [EASY] The 10BASE-T1S .  
 SuggestedRemedy  
 The 10BASE-T1S PHY .  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 147 SC 147.3.2.2 P L 44 # 645  
 Thompson, Geoff GraCaSI S.A.  
 Comment Type TR Comment Status D ig Ticket Item PLCA\_SCOPE  
 PLCA is out of scope for this project and a layer violation for a PHY project.  
 SuggestedRemedy  
 Remove this variable and its descriptive paragraph.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 TFTD

Cl 147 SC 147.3.2.2 P L 50 # 646  
 Thompson, Geoff GraCaSI S.A.  
 Comment Type TR Comment Status D ig Ticket Item PLCA\_SCOPE  
 PLCA is out of scope for this project and a layer violation for a PHY project.  
 SuggestedRemedy  
 Remove the remainder of PCLA from this project draft.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 TFTD

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.3.2.2 P 149 L 44 # 283  
KIM, YONG NIO

Comment Type TR Comment Status D Big Ticket Item PLCA

PLCA is not a part of PCS. It is a part of RS (CL 148). Why are plca\_en and other signals are defined and used in CL147 PHY specification, i.e. Fig 147-4 PCS TX state diagram line 11? As per "When PLCA capability is supported and enabled, the RS shall use the combination of TX\_EN deasserted, TX\_ER asserted, and TXD<3:0> equal to 0010 or 0011 as shown in Table 22-1 to send respectively a BEACON or a COMMIT request as explained in Clause 148." the TX state diagram could just be tx\_sym <=tx\_cmd in SILENT state.

## SuggestedRemedy

Eliminate plca related signal use here and everywhere else in this clause (CL147). Let RS layer do its thing, and let PCS and PMA in the PHY do their thing.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
TODO: carry out the changes in Clause 147\_r2p0\_resolution.pdf

CI 147 SC 147.3.2.2 P 149 L 48 # 692  
Xu, Dayin Rockwell Automation

Comment Type T Comment Status D EZ

Use "TRUE or FALSE" or "ON or OFF"? pcs\_txen on line 30 use "TRUE or FALSE" but here use "ON or OFF". It seems not consistent.

## SuggestedRemedy

Task Fore needs to discuss to determine when to use "TRUE or FALSE" and when to use "ON or OFF". The change should be made based on the outcome of the discussion.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Change the definition of all references (also in figures) to pcs\_reset and plca\_en to use "TRUE or FALSE" instead of "ON or OFF"  
Notes:  
- In figures shortening from "signal = TRUE" to "pcs\_reset", and "pcs\_reset = FALSE" to "!pcs\_reset" not only works but preferred (note: pcs\_reset is just an example of a signal that now becomes "TRUE or FALSE")  
- Clauses 146 and 148 are also affected

CI 147 SC 147.3.2.2 P 149 L 54 # 208  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ

[EASY] Commas at end of lines [54 and next page 1] are missing.

## SuggestedRemedy

Add 2 x a comma after "asserted".

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
- Add a period (dot) after "when a BEACON request is asserted", making it "when a BEACON request is asserted."  
- Add a period (dot) after "COMMIT request is asserted", making it "COMMIT request is asserted."

CI 147 SC 147.3.2.2 P 150 L 11 # 209  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ

[EASY] When this variable is set to TRUE it indicates .

## SuggestedRemedy

When this variable is set to TRUE, it indicates . (comma is missing).

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 147 SC 147.3.2.2 P 150 L 21 # 569  
Laubach, Mark Broadcom

Comment Type T Comment Status D PCS

What is the default value? (or is the intent "set by hardware"?)

## SuggestedRemedy

Indicate the default value or fix the text.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Remove " or set by default"



# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.3.2.2 P 150 L 41 # 541  
Beruto, Piergiorgio Canova Tech Srl

Comment Type T Comment Status D Jabber  
[JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

## SuggestedRemedy

Add description for ESDJAB:  
5B symbol defined as 'S' in 4B/5B encoding

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
TFTD  
See [http://www.ieee802.org/3/cg/public/adhoc/beruto\\_3cg\\_T1S\\_jabber.pdf](http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_T1S_jabber.pdf)

CI 147 SC 147.3.2.3 P 151 L 1 # 330  
Yseboodt, Lennart Signify

Comment Type E Comment Status D EZ  
In Table 147-1 there are a number of empty cells.  
Empty table shall be notes as intentionally empty with an em-dash.

## SuggestedRemedy

Add em-dash to the empty cells.

Proposed Response Response Status W

PROPOSED ACCEPT.  
Already dealt with by #14

CI 147 SC 147.3.2.3 P 151 L 3 # 14  
Huszak, Gergely Kone

Comment Type E Comment Status D EZ  
Table format is not harmonized with the rest of the clause

## SuggestedRemedy

Put em-dash to 16 places to under "Special function" for 0-F

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 147 SC 147.3.2.3 P 151 L 39 # 540  
Beruto, Piergiorgio Canova Tech Srl

Comment Type T Comment Status D Jabber  
[JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

## SuggestedRemedy

Append line to table 147-1  
NAME: S  
4B: N/A  
5B: 11001  
Special Function: ESDJAB

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
TFTD  
See [http://www.ieee802.org/3/cg/public/adhoc/beruto\\_3cg\\_T1S\\_jabber.pdf](http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_T1S_jabber.pdf)

CI 147 SC 147.3.2.5 P 153 L 50 # 210  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ  
[EASY] . of self-synchronizing scrambler by linear-feedback shift register ...

## SuggestedRemedy

. of a self-synchronizing scrambler by a linear-feedback shift register . (add 2 x "a").

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 147 SC 147.3.2.5 P 153 L 50 # 112  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ  
Spurious extra "figure" in "shift register is shown in figure Figure 147-6"

## SuggestedRemedy

Delete "figure"

Proposed Response Response Status W

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **147** SC **147.3.2.5** P **153** L **51** # **211**  
 Graber, Steffen Pepperl+Fuchs GmbH

Comment Type **E** Comment Status **D** EZ  
 [EASY] At every MII clock cycle, for each bit of TXD[3:0] the scrambler .

## SuggestedRemedy

At each MII clock cycle, for each bit of TXD[3:0], the scrambler . (replace every by each and add a comma)

Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

CI **147** SC **147.3.2.6** P **154** L **14** # **545**  
 Beruto, Piergiorgio Canova Tech Srl

Comment Type **T** Comment Status **D** Jabber  
 [JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

## SuggestedRemedy

Add new subclause 147.3.2.6 Timers:  
 XMIT\_MAX\_TIMER  
 <tab> Defines the maximum time the PCS Transmit state machine can stay in DATA state.  
 The XMIT\_MAX\_TIMER shall be implemented in such a way that, upon expiration, an even number of nibbles has been sent to prevent the MAC from counting false alignment errors.  
 Duration: 2ms ± 100 µs

UNJAB\_TIMER  
 <tab>  
 Optionally times the minimum duration the PHY suppresses any transmission before reverting to normal operations. Duration: 16ms ± 100 µs

Proposed Response Response Status **W**  
 PROPOSED ACCEPT IN PRINCIPLE.  
 TFTD  
 See [http://www.ieee802.org/3/cg/public/adhoc/beruto\\_3cg\\_T1S\\_jabber.pdf](http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_T1S_jabber.pdf)

CI **147** SC **147.3.2.7** P **154** L **15** # **546**  
 Beruto, Piergiorgio Canova Tech Srl

Comment Type **T** Comment Status **D** Jabber  
 [JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

## SuggestedRemedy

Add new subclause 147.3.2.7 Jabber Functional Requirements:  
 The PCS Transmit function shall contain the capability to interrupt a transmission that exceeds a time duration determined by XMIT\_MAX\_TIMER. If the packet being transmitted continues longer than the specified time duration, the PCS Transmit shall send an ESD, ESDJAB symbol sequence to notify the receivers, then it shall inhibit further transmissions for at least the duration of UNJAB\_TIMER. The PCS Transmit may return to normal operation automatically after UNJAB\_TIMER elapsed and the error condition has been cleared, or it can keep silent until reset.

Proposed Response Response Status **W**  
 PROPOSED ACCEPT IN PRINCIPLE.  
 TFTD  
 See [http://www.ieee802.org/3/cg/public/adhoc/beruto\\_3cg\\_T1S\\_jabber.pdf](http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_T1S_jabber.pdf)

CI **147** SC **147.3.3.1** P **154** L **18** # **404**  
 Jones, Chad Cisco

Comment Type **ER** Comment Status **D** PCS  
 delete "and Figure 147-9". Also combine Figure 147-8 and 147-9 into one figure.

## SuggestedRemedy

Delete "and Figure 147-9".  
 Also page 157, line 32, rename "Figure 147-9" to "Figure 147-8 (continued)"  
 also, search doc and delete any other occurrence of "Figure 147-9"

Proposed Response Response Status **W**  
 PROPOSED ACCEPT IN PRINCIPLE.  
 TODO:  
 - Rename "Figure 147-8-PCS Receive state diagram (1 of 2)" to "Figure 147-8-PCS Receive state diagram (part a)"  
 Rename "Figure 147-9-PCS Receive state diagram (2 of 2)" to "Figure 147-9-PCS Receive state diagram (part b)"  
 Note: clauses 146 and 148 (148-4/5) is also affected

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

Cl 147 SC 147.3.3.1 P 154 L 21 # 405  
Jones, Chad Cisco

Comment Type E Comment Status D EZ

missing word: "can still be detected by the PMA exploiting the absence of DME activity on the line." BY exploiting the absence?

## SuggestedRemedy

CHANGE TO: "can still be detected by the PMA by exploiting the absence of DME activity on the line."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Already dealt with by #694

Cl 147 SC 147.3.3.1 P 154 L 21 # 694  
Xu, Dayin Rockwell Automation

Comment Type E Comment Status D EZ

It is a little strange to have this note here because it does not specify anything actually.

## SuggestedRemedy

Delete the note.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 147 SC 147.3.3.1 P 154 L 21 # 15  
Huszk, Gergely Kone

Comment Type E Comment Status D EZ

Text of text "Note:" does not harmonize with the rest of the clauses

## SuggestedRemedy

Remove bold attribute from "Note:"

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Already dealt with by #694

Cl 147 SC 147.3.3.1 P 154 L 28 # 212  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ

[EASY] Transmit functions

## SuggestedRemedy

Transmit function (there is only one function)

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Cl 147 SC 147.3.3.1 P 154 L 36 # 543  
Beruto, Piergiorgio Canova Tech Srl

Comment Type T Comment Status D Jabber

[JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

## SuggestedRemedy

Replace "ESDOK or ESDERR" with "ESDOK, ESDERR or ESDJAB"

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

See [http://www.ieee802.org/3/cg/public/adhoc/beruto\\_3cg\\_T1S\\_jabber.pdf](http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_T1S_jabber.pdf)

Cl 147 SC 147.3.3.1 P 154 L 40 # 213  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ

[EASY] . ESDOK and ESDERR see 147.3.2.2.

## SuggestedRemedy

. ESDOK, and ESDERR see 147.3.2.2. (add comma after ESDOK).

Proposed Response Response Status W

PROPOSED REJECT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.3.3.1 P 154 L 40 # 544  
 Beruto, Piergiorgio Canova Tech Srl  
 Comment Type T Comment Status D Jabber  
 [JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.  
 SuggestedRemedy  
 Replace "ESDOK" with "ESDOK, ESDJAB"  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 TFTD  
 See [http://www.ieee802.org/3/cg/public/adhoc/beruto\\_3cg\\_T1S\\_jabber.pdf](http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_T1S_jabber.pdf)

CI 147 SC 147.3.3.1 P 154 L 154 # 491  
 Jones, Peter Cisco  
 Comment Type TR Comment Status D Jabber  
 Change to use a consistent approach to jabber modeled after clause 10 as per previous comments.  
 SuggestedRemedy  
 Make suggested changes  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.  
 TFTD  
 Text is in [http://www.ieee802.org/3/cg/public/adhoc/beruto\\_3cg\\_T1S\\_jabber.pdf](http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_T1S_jabber.pdf)  
 See also: #534, #535, #536, #537, #538, #539, #542, #541, #540, #545, #546, #543, #544, #547

CI 147 SC 147.3.3.2 P 154 L 47 # 214  
 Graber, Steffen Pepperl+Fuchs GmbH  
 Comment Type E Comment Status D EZ  
 [EASY] When it is set to TRUE it indicates .  
 SuggestedRemedy  
 When it is set to TRUE, it indicates . (add comma).  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.

CI 147 SC 147.3.3.2 P 154 L 52 # 533  
 Beruto, Piergiorgio Canova Tech Srl  
 Comment Type T Comment Status D AutoNeg  
 MDIO is optional, duplex\_mode shall be configured anyway.  
 SuggestedRemedy  
 Add the following after "Table 22-7.": "If MDIO is not implemented, duplex\_mode should be set by the means of equivalent interface. Otherwise, duplex\_mode can be set by the means of auto-negotiation"  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 147 SC 147.3.3.2 P 154 L 53 # 215  
 Graber, Steffen Pepperl+Fuchs GmbH  
 Comment Type E Comment Status D EZ  
 [EASY] This variable is set after bit 8 in MDIO register 0 defined in Table 22-7.  
 SuggestedRemedy  
 If MDIO is being implemented, this variable is set according to bit 8 in MDIO register 0, defined in Table 22-7.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 147 SC 147.3.3.2 P 155 L 12 # 216  
 Graber, Steffen Pepperl+Fuchs GmbH  
 Comment Type E Comment Status D EZ  
 [EASY] Received 5b symbol .  
 SuggestedRemedy  
 Received 5B symbol . (B should be capital).  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.3.3.2 P 155 L 19 # 217  
 Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ  
 [EASY] PCS Receive process

## SuggestedRemedy

PCS receive function (which is the terminology in the rest of the document).

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

- 155/19: Change "PCS Receive process" to "PCS Receive Function"
- 111/6: If accepted, inform Steffen about it

CI 147 SC 147.3.3.2 P 155 L 27 # 218  
 Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ  
 [EASY] Dot is missing at end of line.

## SuggestedRemedy

Add "." after . PCS RX clock.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 147 SC 147.3.3.5 P 155 L 37 # 219  
 Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ  
 [EASY] exclusive OR

## SuggestedRemedy

exclusive-OR (to be aligned with the description in chapter 147.3.2.5).

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

- Change all occurrences of "exclusive OR" to "exclusive-OR"
- Inform other editors, if other clauses are affected

CI 147 SC 147.3.3.5 P 156 L 1 # 220  
 Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ  
 In Figures 147-8 and 147-9 the pcs\_rxd vector is net set into quotation marks (as in clause 146).

## SuggestedRemedy

Set the 4-bit binary vectors in quotation marks or remove the quotation marks in Clause 146.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

TODO: remove the quotation marks on binary numbers/vectors

Note: clauses 146 and 148 may also be affected

CI 147 SC 147.3.3.5 P 156 L 21 # 524  
 Beruto, Piergiorgio Canova Tech Srl

Comment Type T Comment Status D State Diagram

In figure 147-8 the condition in the transition from "WAIT\_SSD" to "FALSE\_CARRIER" state is buggy. From "WAIT\_SSD" state you have to make a one-time decision to go in "FALSE\_CARRIER" or "PRE" state depending on whether the received symbol is the second SSD or not.

## SuggestedRemedy

In figure 147-8 remove the "\* Rxn ? SYNC" from the condition in the transition from "WAIT\_SSD" to "FALSE\_CARRIER" state.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 147 SC 147.3.3.5 P 156 L 21 # 519  
 Beruto, Piergiorgio Canova Tech Srl

Comment Type E Comment Status D EZ

Recirculating arc in WAIT\_SSD state of figure 147-8 is not needed

## SuggestedRemedy

In figure 147-8 delete the recirculating arc along with the ELSE condition.

Proposed Response Response Status W

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

Cl **147** SC **147.3.3.5** P **156** L **21** # **525**  
Beruto, Piergiorgio Canova Tech Srl

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

In figure 147-8 the state named "SYNC" could be renamed to "SYNCING" for disambiguation with "SYNC" symbol.

## SuggestedRemedy

In figure 147-8 rename "SYNC" state to "SYNCING".

Proposed Response Response Status **W**

PROPOSED ACCEPT.

Cl **147** SC **147.3.3.5** P **156** L **30** # **221**  
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] RSCD \* precnt != 9

## SuggestedRemedy

For better reading the condition should not be divided by the arrow line.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

Stretch the bottom part of the arrow downwards and out both lines of the text above the arrow's bottom

Cl **147** SC **147.3.3.5** P **157** L **20** # **222**  
Graber, Steffen Pepperl+Fuchs GmbH

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

[EASY] Font style of 0000 (left side) does not fit rest of document.

## SuggestedRemedy

Change font style according to document style rules.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

Cl **147** SC **147.3.3.6** P **157** L **54** # **547**  
Beruto, Piergiorgio Canova Tech Srl

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

[JABBER] Jabber protection should be added to 10BASE-T1S PCS Transmit function.

## SuggestedRemedy

Add new subclause 147.3.3.6 Jabber diagnostics:

The ESDJAB symbol informs the PCS Receiver that a frame was terminated by the jabber function. The number of received ESDJAB events can be reported to the management entity by the means of MDIO register 3.2293 or similar functionality if MDIO is not implemented.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

See [http://www.ieee802.org/3/cg/public/adhoc/beruto\\_3cg\\_T1S\\_jabber.pdf](http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_T1S_jabber.pdf)

Cl **147** SC **147.3.5** P L **10** # **648**  
Thompson, Geoff GraCaSI S.A.

Comment Type **TR** Comment Status **D** Big Ticket Item Repeaters

Collision detect as described here purports to detect a collision between this station and one other station. It does not describe any way to detect a collision between any other two or more stations.

## SuggestedRemedy

Add collision detection based on energy received. Lack of this aspect constitutes a lack of completeness in the basic function of the specified device and therefore the draft. Restart the initial WG Ballot.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.3.5 P L 10 # 647  
Thompson, Geoff GraCaSI S.A.

Comment Type TR Comment Status D PCS

For 10BASE5, 10BASE2 and 10BROAD36 a receive code violation was not considered to happen quickly enough or be reliable enough to provide reliable collision detection, ergo it is not good enough here.

## SuggestedRemedy

Add collision detection based on energy received.

Proposed Response Response Status W

PROPOSED REJECT.  
Probability of failed detection is very low. It requires:  
- exact alignment of the scramblers (1:128k)  
and  
- exact enough phase alignment of the packets

CI 147 SC 147.3.5 P 158 L 17 # 223  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ

[EASY] . in the symbol sequence.

## SuggestedRemedy

. within the symbol sequence.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 147 SC 147.3.6 P L 25 # 649  
Thompson, Geoff GraCaSI S.A.

Comment Type TR Comment Status D Big Ticket Item CRS

This text does not produce CRS. It only works when this station is transmitting or when it is receiving and decoding data. The requirement is that it detect activity on the media whether decodable as data or not.

## SuggestedRemedy

Describe what it takes to fully implement the required function.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
TODO: Carry out the changes in Clause 147\_r2p0\_resolution.pdf

CI 147 SC 147.3.6 P 158 L 23 # 135  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

22.2.2.11 and 22.2.2.12 are included in the draft, so references to them should be cross-references.

## SuggestedRemedy

Change "22.2.2.11" to be a cross-reference in:  
147.3.6 (page 158, line 23)  
148.4.5.1 (page 180, line 36)  
Change "22.2.2.12" to be a cross-reference in:  
148.4.5.1 (page 180, line 36)

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 147 SC 147.3.7 P L 1 # 650  
Thompson, Geoff GraCaSI S.A.

Comment Type TR Comment Status D ig Ticket Item PLCA\_SCOPE

PLCA is out of scope for this project and a layer violation for a PHY project.

## SuggestedRemedy

Remove the entirety of cl. 147.3.7.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
TFTD

CI 147 SC 147.3.7 P 159 L 3 # 224  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ

[EASY] When PLCA .

## SuggestedRemedy

If PLCA . (on page 159 there are several "when" conditions, likely they need to be converted to "if" conditions, as there is no timely reference, but it is meant to be conditional).

Proposed Response Response Status W

PROPOSED REJECT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.3.7.1 P 159 L 12 # 225  
 Graber, Steffen Pepperl+Fuchs GmbH  
 Comment Type E Comment Status D EZ  
 [EASY] . than a 'N' code.  
 SuggestedRemedy  
 . than an 'N' code. ('an' instead of 'a').  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 147 SC 147.3.7.2 P 159 L 19 # 226  
 Graber, Steffen Pepperl+Fuchs GmbH  
 Comment Type E Comment Status D EZ  
 [EASY] . the MII signals RX\_DV, RX\_ER and RXD shall .  
 SuggestedRemedy  
 . the MII signals RX\_DV, RX\_ER, and RXD<3:0> shall . (add comma and <3:0>)  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 147 SC 147.4 P L 2 # 651  
 Thompson, Geoff GraCaSI S.A.  
 Comment Type ER Comment Status D EZ  
 The PHY doesn't provide "both" half-duplex and full duplex communication.  
 SuggestedRemedy  
 Change "both" to "either"  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 147 SC 147.4 P 159 L 34 # 227  
 Graber, Steffen Pepperl+Fuchs GmbH  
 Comment Type E Comment Status D EZ  
 [EASY] Font style of Figure 147-10 does not match rest of the document.  
 SuggestedRemedy  
 Please change font style of Figure 147-10 to match other drawings.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 147 SC 147.4 P 159 L 35 # 228  
 Graber, Steffen Pepperl+Fuchs GmbH  
 Comment Type T Comment Status D EZ  
 PMA\_UNITDATA.indication (rx\_sym) and PMA\_UNITDATA.request (tx\_sym) seem to be reversed.  
 SuggestedRemedy  
 Please move PMA\_UNITDATA.request (tx\_sym) to PMA Transmit block and PMA\_UNITDATA.indication (rx\_sym) to PMA Receive block (direction of arrows is already ok and needs no change, only the text)

Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 147 SC 147.4 P 159 L 35 # 229  
 Graber, Steffen Pepperl+Fuchs GmbH  
 Comment Type E Comment Status D EZ  
 [EASY] Arrow from PMA transmit to BI\_DA+/- is missing.  
 SuggestedRemedy  
 Add an arrow in line 35 from PMA Transmit to BI\_DA+/-.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 147 SC 147.4.2 P L 17 # 652  
 Thompson, Geoff GraCaSI S.A.  
 Comment Type ER Comment Status D EZ  
 There is no obvious antecedent for the word "these". Additionally this entire sentence seems badly out of place.  
 SuggestedRemedy  
 Move the sentence to wherever the output waveform is spec'd in terms of voltage. 147.5.4.1 doesn't seem to fit so the answer is not obvious to me.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Remove the single paragraph at 160/17-19



# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.4.2 P 160 L 33 # 230  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type T Comment Status D PMA

In Figure 147-11 using high impedance state the exponential decay of the signal is shown after disabling the transmitter. Nevertheless there is no time specified until the signal on the link segment or mixing segment must reach a level of "0".

## SuggestedRemedy

If the differential "0" is a must in being able to detect an end of the telegram (e.g. if and ESD is not detected), then there is need to specify an additional time T4, which is smaller than T1, e.g. max. 100 ns, if there is no need to read a "0", then we could keep it like it is (or e.g. make a note, that the maximum time for the signal to reach "0" again in high impedance state is T1).

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

TODO:

- Establish T4 in "Table 147-2-DME Timings" as follows: "T4 | Time from line driven state to high-Z or 0 V | - | 800 | - | ns

Note: mind the non-breaking white-spaces

- Squeeze T4 into "Figure 147-11-DME Encoding Scheme"

CI 147 SC 147.4.2 P 160 L 47 # 12  
Huszk, Gergely Kone

Comment Type E Comment Status D EZ

Column headers of "Table 147-2-DME Timings" are off (do not harmonize with those "Table 147-3-MDI impedance limit parameters")

## SuggestedRemedy

Make the following changes:

- "" (first column) to "Parameter name"
- "Parameters" to "Description"
- "Min" to "Minimum value"
- "Typ" to "Nominal value"
- "Max" to "Maximum value"
- "Units" to "Unit of measure"

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 147 SC 147.4.2 P 161 L 5 # 231  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ

[EASY] comma before if is missing.

## SuggestedRemedy

Add a comma before "if".

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 147 SC 147.4.2 P 161 L 9 # 378  
Matheus, Kirsten BMW AG

Comment Type E Comment Status D PMA

Is 0V confusing.

## SuggestedRemedy

Use whatever is correct like "Line needs to be terminated at both ends".

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Change this:

====

When operating in point-to-point mode, have the PMD drive a differential voltage of 0 V (BI\_DA+ = BI\_DA-).

====

To this:

====

When operating in point-to-point mode, the PMD drives a BI\_DA+ and BI\_DA- to the same voltage with 100 Ohm nominal impedance, so that their difference is 0 V.

====

Note: mind the 6 non-breaking white-spaces

CI 147 SC 147.4.2 P 161 L 14 # 232  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ

[EASY] comma before if is missing.

## SuggestedRemedy

Add a comma before "if".

Proposed Response Response Status W

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

Cl 147 SC 147.4.2 P 161 L 15 # 233  
 Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ  
 [EASY] . until next bit.

SuggestedRemedy  
 . until the next bit (add "the").

Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 147 SC 147.4.3 P 161 L 24 # 234  
 Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ  
 [EASY] The PMA receive function .

SuggestedRemedy  
 The PMA Receive function . (capital "R").

Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 147 SC 147.4.3 P 161 L 25 # 235  
 Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ  
 [EASY] . the PMA Receive .

SuggestedRemedy  
 . the PMA Receive function .

Proposed Response Response Status W  
 PROPOSED ACCEPT.

Cl 147 SC 147.4.4 P L 30 # 655  
 Thompson, Geoff GraCaSI S.A.

Comment Type TR Comment Status D EZ  
 What is this clause? Is it normative or informative? If it is informative then it is not needed. If it is normative then it actually needs to include actual specifications

SuggestedRemedy  
 Fix.

Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Remove "147.4.4 PMA Clock recovery" and its content (effectively 161/28-32)

Cl 147 SC 147.5.1 P 161 L 38 # 492  
 Jones, Peter Cisco

Comment Type TR Comment Status D PMA  
 802.3bz includes the following in "126.5.4.3 Rejection of External EM Fields" "Operational requirements of the transceiver during the test are determined by the manufacturer". Add this to 147.5.1

SuggestedRemedy  
 Make suggested change

Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Add the following sentence to the end of the new "147.5.1 EMC tests" after #442 is resolved: "Operational requirements of the transceiver during the test are determined by the manufacturer."

Cl 147 SC 147.5.1 P 161 L 40 # 442  
 Wienckowski, Natalie General Motors

Comment Type E Comment Status D PMA  
 Don't copy the text from 96.5.1.x, refer to it as Section 97.5.1.x does.

SuggestedRemedy  
 Remove text and use suggested reference text from 97.5.1.x.

Proposed Response Response Status W  
 PROPOSED REJECT.  
 Text is being modified by another comment (#492) and #97 does not fully overlap with what are doing here

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **147** SC **147.5.1.1** P **161** L **51** # **406**  
Jones, Chad Cisco

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

another inappropriate occurrence of customer and supplier. "The sensitivity of the PMA's receiver to RF CM noise may be tested according to the DPI method of IEC 62132-4, and may need to comply with more stringent requirements as agreed upon between customer and supplier."

## SuggestedRemedy

CHANGE TO: "The sensitivity of the PMA's receiver to RF CM noise may be tested according to the DPI method of IEC 62132-4, and may need to comply with more stringent requirements."

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **147** SC **147.5.1.2** P **162** L **4** # **407**  
Jones, Chad Cisco

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

another inappropriate instance of customer and supplier: "and may need to comply with more stringent requirements as agreed upon between customer and supplier."

## SuggestedRemedy

CHANGE TO: "and may need to comply with more stringent requirements ."

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **147** SC **147.5.2** P **162** L **26** # **683**  
Donahue, Curtis UNH-IOL

Comment Type **T** Comment Status **D** Test Mode

The paragraph that describes the transmitter behavior in test mode 2 curiously seems to imply a conformance requirement of 1Vpp +/- 30%. However, this is not listed in 147.5.4.2 (the output droop subclause). Since this test mode is used to measure the droop over an 800ns period, a voltage requirement doesn't make much sense. Additionally, the 1Vpp +/- 30% conflicts with the 1Vpp +/- 20% defined in 147.5.4.1.

## SuggestedRemedy

Remove "at 1 Vpp +/- 30% amplitude".

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **147** SC **147.5.2** P **162** L **29** # **614**  
Baggett, Tim Microchip

Comment Type **T** Comment Status **D** Test Mode

Use the PCS data scrambler rather than PRBS7 in the generation of the pseudo-random sequence of Test Mode 3, Transmitter Distortion Test and PSD Mask. This removes a small bit of extra logic that would be required in implementing the PRBS7 in favor of the PCS data scrambler already in the design. Additionally, the PCS data scrambler has a much longer cycle time than the PRBS7 resulting in better output spectrum.

## SuggestedRemedy

- Change "PRBS7 with the generating polynomial of" to "the scrambler defined in 147.3.2.5 and"

- Add the following new sentence to the end of this paragraph: "The input to the scrambler shall be a constant stream of zeroes."

Note: link to 147.3.2.5

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change this:

====

When test mode 3 is enabled, the PHY shall transmit continually a pseudo-random sequence of +1 and -1 symbols generated by PRBS7 with the generating polynomial of  $x^7+x^6+1$  encoded using Differential Manchester Encoding (DME) as in 147.4.2.

====

to this:

====

When test mode 3 is enabled, the PHY shall transmit continually a pseudo-random sequence of positive and negative voltage levels, generated by the scrambler defined in 147.3.2.5 and encoded using DME as in 147.4.2.

====

Note: In case this is the first use of DME, change "DME" to "Differential Manchester Encoding (DME)" in the proposed resolution

Reason: scrambler's 17-bit polynomial is assumed to be 3 order of magnitudes better in randomness than that of the PRBS7, therefore more suitable for PSD measurements (cca. In the range of 100 Hz in resolution)

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.5.2 P 162 L 29 # 615  
Baggett, Tim Microchip

Comment Type T Comment Status D Test Mode

Inserting the 4B5B encoder between the pseudo-random sequence generator and DME encoder in Test Mode 3 will result in a transmitter PSD very close to what will be observed in normal transmit function except that it will not be packetized.

## SuggestedRemedy

- Insert "encode groups of four bits from 4B to 5B symbols as in 147.3.2.3, then " before "encoded using Differential Manchester Encoding"

- If 4B/5B mapping is not be applied to this test mode for any reason, then we shall shall need to specify at what rate should the pseudo-random bit sequence is generated at prior to Differential Manchester Encoding so as to properly match the transmit PSD mask in 147.5.4.4.

Proposed Response Response Status W

PROPOSED REJECT.

The purpose of the test is to verify the transmitter electrical characteristics, not to measure emissions

CI 147 SC 147.5.2 P 162 L 33 # 680  
Donahue, Curtis UNH-IOL

Comment Type T Comment Status D Test Mode

This paragrpah only describes the transmitter behavior when two conditions are met, i) when "multidrop option is supported", and ii) "test mode 4 is enabled". I see no language suggesting that test mode 4 is optional to implement, therefore it can be expected that a transmitted can be configured for test mode 4 even when the multidrop option is not supported.

## SuggestedRemedy

Suggest modifying this text to better describe the transmitters behavior when test mode 4 is enabled.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Change this:

====

When the multidrop option is supported and test mode 4 is enabled, the transmitter presents a high impedance to the line as specified in 147.4.2 for the 'I' symbol in multidrop mode.

====

to this:

====

PHYs supporting multidrop mode shall implement test mode 4. When test mode 4 is enabled and the PHY is configured for multidrop mode, the transmitter shall present a high impedance termination to the line as specified in 147.4.2 for the 'I' symbol when operating in multidrop mode.

PHYs not supporting multidrop mode are not required to implement test mode 4. When test mode 4 is enabled and the PHY is not configured for multidrop mode, the transmitter behavior is undefined and left up to the implementer.

====

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.5.3 P 162 L 36 # 681  
Donahue, Curtis UNH-IOL

Comment Type E Comment Status D EZ

This is the Test Fixture subclause but has no mention of the two test fixture figures defined in this Clause.

## SuggestedRemedy

Suggest the following changes:

1. modifying the text in the first paragraph to be similar to that in "55.5.2.1 Test Fixtures".
2. Move Figure 147-12 and 147-14 to subclause 147.5.3.
3. Rename Figure 147-12 to "Transmitter test fixture 1 for transmitter voltage, transmitter droop, and transmitter timing jitter".
4. Rename Figure 147-14 to "Transmitter test fixture 2 for power spectral density measurement".

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

TODO:

1. Add the following text above the first paragraph in 147.5.3:

====

The following fixtures (illustrated by Figure 147-12, and Figure 147-14), or their functional equivalents, can be used for measuring the transmitter specifications described in 147.5.4.

====

2. Move Figure 147-12 and 147-14 to subclause 147.5.3.
3. Rename "Figure 147-12-Test fixture" to "Figure 147-12-Transmitter test fixture 1 for transmitter voltage, transmitter droop, and transmitter timing jitter"
4. Rename "Figure 147-14-Transmitter test fixture 2 for PSD mask" to "Figure 147-13-Transmitter test fixture 2 for power spectral density measurement"

Note: verify renumbering 147-14->147-13, which should happen because of point 2

Note: clause 146 also affected

CI 147 SC 147.5.4 P 162 L 46 # 612  
Baggett, Tim Microchip

Comment Type T Comment Status D PMA

T1S defines two types of segments: point-to-point and a multi-drop mixing segment. Different tests were defined in beruto\_3cg\_02a\_117.pdf for each segment type. The test fixtures in Clause 147 currently specify a 100 Ohm load resistance as would be seen by a point-to-point transmitter. However, due to the two 100 Ohm edge termination resistances in a mixing segment, a multi-drop transmitter will see the 50 Ohm parallel combination.

## SuggestedRemedy

\* Page 162, Section 147.5.4, Line 46: Replace sentence:

"Where a load is not specified, the transmitter shall meet the requirements of this section with a 100 Ohm  $\pm$  0.1 % resistive differential load connected to the transmitter output."

With:

"Where a load is not specified, the transmitter shall meet the requirements of this section with a resistive differential load connected to the transmitter output. The transmitter differential load is 100 Ohms for point-to-point segments, and 50 Ohms for mixing segments."

\* Page 163, Section 147.5.4.1, Figure 147-12: Replace "100 Ohm  $\pm$  0.1%" with "Rload  $\pm$  0.1%" and add "For point-to-point segments Rload is 100 Ohms and for mixing segments Rload is 50 Ohms." to line 4.

\* Page 164, Section 147.5.3, Figure 147-14: Add 100 Ohm load resistor, RL, to output of Transmitter Under Test for mixing segments. For point-to-point segments, the 100 Ohm input impedance of the balun suffices.

Proposed Response Response Status W

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.5.4 P 162 L 46 # 619  
Brandt, David Rockwell Automation

Comment Type T Comment Status D PMA

A link segment and mixing segment differ in the impedance seen by the transmitter

## SuggestedRemedy

Replace:

Where a load is not specified, the transmitter shall meet the requirements of this section with a  $100\ \Omega \pm 0.1\%$  resistive differential load connected to the transmitter output.

With:

Where a load is not specified and multidrop mode is supported and enabled, the transmitter shall meet the requirements of this section with a  $50\ \Omega \pm 0.1\%$  resistive differential load connected to the transmitter output. Otherwise the transmitter shall meet the requirements of this section with a  $100\ \Omega \pm 0.1\%$  resistive differential load connected to the transmitter output.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 147 SC 147.5.4.1 P L 3 # 654  
Thompson, Geoff GraCaSI S.A.

Comment Type ER Comment Status D EZ

This clause should actually start with the content claimed in the title, not the test for it. Further, the tests for that spec (rest of this para plus next cl./droop should be subordinate to this clause.

## SuggestedRemedy

Move 1st sentence & figure to new subordinate clause. Make 147.5.4.2 also a subordinate clause.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

TODO:

- "147.5.4.1 Transmitter output voltage" will have only "The transmitter output voltage shall be  $1\ \text{V} \pm 20\%$  peak-to-peak differential."
- The new chapter "147.5.4.1.1 Transmitter tests" having "Transmitter output voltage shall be tested using test mode 1 in combination with the test fixture shown in Figure 147-12." and "Figure 147-12-Test fixture"
- Change "147.5.4.2 Transmitter output droop" to "147.5.4.1.2 Transmitter output droop"

CI 147 SC 147.5.4.1 P 163 L 6 # 16  
Huszk, Gergely Kone

Comment Type E Comment Status D EZ

Fonts and alignments in the figure are off

## SuggestedRemedy

Make the fonts same within this figure and other figures in the clause, and fix text alignments

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 147 SC 147.5.4.1 P 163 L 6 # 11  
Huszk, Gergely Kone

Comment Type E Comment Status D EZ

Resistor is off

## SuggestedRemedy

Make it a polygon

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 147 SC 147.5.4.1 P 163 L 8 # 620  
Brandt, David Rockwell Automation

Comment Type T Comment Status D EZ

Figure does not show different impedances for link segment and mixing segment

## SuggestedRemedy

Replace:

$100\ \Omega \pm 0.1\%$

With:

Transmitter Load

Proposed Response Response Status W

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.5.4.1 P 163 L 13 # 237  
 Graber, Steffen Pepperl+Fuchs GmbH

Comment Type T Comment Status D PMA

Test probe capacitance seems to be quite high (30 pF).

## SuggestedRemedy

Test probe capacitance should be below 10 pF (due to the higher signal frequency compared to 10BASE-T1L).

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 147 SC 147.5.4.1 P 163 L 23 # 331  
 Yseboodt, Lennart Signify

Comment Type E Comment Status D EZ

The title of Figure 147-12 is "Test fixture".  
 That isn't very descriptive / specific...

## SuggestedRemedy

Change to "Transmitter output voltage test fixture"

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
 Already dealt with by #681

CI 147 SC 147.5.4.1 P 163 L 30 # 236  
 Graber, Steffen Pepperl+Fuchs GmbH

Comment Type T Comment Status D PMA

Clause 147.5.2, test mode 2 describes a transmit amplitude of 1 Vpp +/- 30 %. The text in Clause 147.5.4.1 describes a transmitter output voltage of 1 V +/- 20 %.

## SuggestedRemedy

Needs to be aligned. Both Clauses 1 Vpp +/- 20 % or both Clauses 1 Vpp +/- 30 % (which from discussions during the last meetings is likely, what it is intended to be used).

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
 Already dealt with by #683

CI 147 SC 147.5.4.3 P 164 L 4 # 622  
 Brandt, David Rockwell Automation

Comment Type T Comment Status D PMA

Test implies only link segment

## SuggestedRemedy

Replace:

The maximum jitter at the transmitter side shall be less than ±5 ns symbol-to-symbol jitter.

With:

The maximum jitter at the transmitter side shall be less than ±5 ns symbol-to-symbol jitter, including when multidrop mode is supported and enabled.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Append the following to end of 147.5.4. "Unless otherwise specified, the specifications in 147.5.4.1 through 147.5.4.7 apply to transmitters in both point-to-point and multidrop mode, if supported."

CI 147 SC 147.5.4.3 P 164 L 7 # 238  
 Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ

[EASY] Figure 147-14 belongs to Clause 147.5.4.4.

## SuggestedRemedy

Move Figure 147-14 into Clause 147.5.4.4.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

It may already be there and we discussed to let Frame decide location of figures, even if it is a bit off sometimes (also given the fact that the references are OK)

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **147** SC **147.5.4.3** P **164** L **10** # **621**  
 Brandt, David Rockwell Automation

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

Figure does not show different impedances for link segment and mixing segment

## SuggestedRemedy

Replace:  
 100 O

With:  
 50 O (multidrop mode) or 100 O

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **147** SC **147.5.4.3** P **164** L **13** # **332**  
 Yseboodt, Lennart Signify

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

The title of Figure 147-14 is "Transmitter test fixture 2 for PSD mask".

I can't seem to find the first test fixture.

## SuggestedRemedy

Change to "Transmitter test fixture for PSD mask"

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **147** SC **147.5.4.4** P **164** L **13** # **695**  
 Xu, Dayin Rockwell Automation

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

The Figure 147-14 should not appear before the text.

## SuggestedRemedy

Move the Figure 147-14 after line 20 page 164

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.  
 Already dealt with by #238

CI **147** SC **147.5.4.4** P **164** L **19** # **611**  
 Baggett, Tim Microchip

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

Additional parameters need to be specified for measuring the TX PSD in Test Mode 3 for measuring against the PSD mask in Figure 147-15.

## SuggestedRemedy

- Add similar text as found in T1L Section 146.5.4.4, lines 14-16, page 123:

"The measurements need to be calibrated for the insertion loss of the differential Balun used in the test. The resolution bandwidth of 10 kHz and sweep time of larger than 1 second are considered in the PSD measurement."

- Verify that the selected resolution bandwidth matches the PSD limits specified in 146.5.4.4

Proposed Response Response Status **W**

PROPOSED REJECT.

TFTD

Note: text of clause 146 and 147 needs to be aligned with whatever resolution we come to Current response: IEEE Std 802.3 is not a test specification and specifying test equipment settings is inappropriate. Text provided is consistent with deployed PHYs specified in other parts of 802.3 including clauses 55 and 126.

CI **147** SC **147.5.4.4** P **164** L **21** # **113**  
 Anslow, Pete Ciena

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

This says: "The measured PSD shall be between the upper and lower bounds specified in the table below."

There is no table below (and anyway the table should be specifically cross-referenced).

## SuggestedRemedy

Change to: "The measured PSD shall be between the upper and lower bounds specified in 147.5.4.4.1 and 147.5.4.4.2, respectively."

Proposed Response Response Status **W**

PROPOSED ACCEPT.



# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **147** SC **147.5.4.4** P **164** L **30** # **114**  
Anslow, Pete Ciena

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

Equation 147-1 has no upper frequency bound, so -75 dBm/Hz has to be measured to infinite frequency.

## SuggestedRemedy

Add a reasonable upper bound such as 40 MHz as per Figure 147-15.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.  
Already dealt with by #239

CI **147** SC **147.5.4.4.1** P **164** L **29** # **239**  
Grabner, Steffen Pepperl+Fuchs GmbH

Comment Type **T** Comment Status **D** Test Mode

There is no upper limit of the frequency range for the upper PSD limit.

## SuggestedRemedy

It could make sense to limit the upper frequency of the upper PSD limit to a maximum frequency (e.g. 40 MHz, as shown in Figure 147-15). If agreed, specify  $25 \leq f \leq 40$  and  $0.3 \leq f \leq 40$  MHz.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **147** SC **147.5.4.4.1** P **164** L **29** # **682**  
Donahue, Curtis UNH-IOL

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

Missing upper bound on frequency for third section of equation.

## SuggestedRemedy

Change " $25 \leq f$ " to " $25 \leq f \leq 40$ "

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.  
Already dealt with by #239

CI **147** SC **147.5.4.4.2** P **164** L **37** # **526**  
Beruto, Piergiorgio Canova Tech Srl

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

Lower PSD mask is too low, achieving proper SNR to keep target BER of  $10^{-10}$  is impossible under worst case noise conditions. Raising the lower PSD mask by 8db still yields 0.8Vpp of signal.

## SuggestedRemedy

In equation 147-2 change " $-95 + 2f$ " to " $-87 + 2f$ "  
In equation 147-2 change " $-55 - 2f$ " to " $-47 - 2f$ "  
Update figure 147-15 to reflect the changes

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **147** SC **147.5.4.6** P **165** L **29** # **240**  
Grabner, Steffen Pepperl+Fuchs GmbH

Comment Type **T** Comment Status **D** ig Ticked Item PMA Electrical

An AWGN noise limit of -106 dBm/Hz with a BW of 20 MHz is specified here (which is the same limit as for 10BASE-T1L, but with 20 MHz BW). Is this noise limit sufficient for unshielded Automotive applications (for the 10BASE-T1L shielded cables are assumed).

## SuggestedRemedy

Recheck noise limit and adjust, if necessary (especially as there is much less attenuation and only a PAM-2 is being used, there should be significant more headroom).

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.  
TFTD

Change "bandwidth of 20 MHz and magnitude of -106 dBm/Hz" to "bandwidth of 50 MHz and magnitude of -85 dBm/Hz" to align with 100BASE-T1

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **147** SC **147.5.4.6** P **165** L **36** # **623**  
 Brandt, David Rockwell Automation

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

Test setup is not specific enough for repeatability

## SuggestedRemedy

Replace:  
 Link Segment

With:  
 25 m Link Segment

Proposed Response Response Status **W**

PROPOSED ACCEPT.  
 Change "Link Segment" to "Link or Mixing Segment"

CI **147** SC **147.5.4.6** P **165** L **40** # **153**  
 Lewis, Jon Dell EMC

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

Resistor isn't aligned properly

## SuggestedRemedy

Align resistor(s) properly with the connection lines in the drawing.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.  
 Note: use polygon

CI **147** SC **147.5.4.6** P **165** L **48** # **241**  
 Graber, Steffen Pepperl+Fuchs GmbH

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

Headline PMA Local Loopback (and assigned chapter number) are missing.

## SuggestedRemedy

Add a new headline "PMA Local Loopback" and assign an appropriate chapter number (it may be reasonable to move this chapter after chapter 147.5.4.7).

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.  
 TODO:  
 - Create "147.5.4.8 PMA Local Loopback"  
 - Move 4 paragraphs (165/48-166/10) to under that

CI **147** SC **147.5.4.6** P **165** L **48** # **696**  
 Xu, Dayin Rockwell Automation

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

The paragraphs (Line 48-51 on page 165 and line 1-10 on page 166) does not belong to this sub-clause (147.5.4.6)

## SuggestedRemedy

The paragraphs (Line 48-51 on page 165 and line 1-10 on page 166) should be moved before 147.5 PMA electrical specifications as a new sub-clause 147.4.5 PMA Loopback

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.  
 Already dealt with by #241

CI **147** SC **147.5.4.6** P **165** L **48** # **624**  
 Brandt, David Rockwell Automation

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

Topic is changed without new section header

## SuggestedRemedy

Insert header and renumber:  
 147.5.4.7 PMA local loopback mode

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.  
 See also #241, #696 and #408 and put "Already dealt with by" here

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.5.4.6 P 166 L 5 # 408  
Jones, Chad Cisco

Comment Type E Comment Status D EZ

"When the PHY is in the PMA local loopback mode, if the PHY supports full-duplex mode of operation, the PMA Receive function utilizes the echo signals from the unterminated MDI and decodes these signals to pass the data back to the MII Receive interface. If the PHY supports half-duplex mode of operation, the PMA and PCS Receive functions shall pass to the MII RX the data decoded from the signal which is normally received during a transmission for the purpose of detecting collisions." seems the second paragraph also needs the "When the PHY is in the PMA local loopback mode"

## SuggestedRemedy

Either:  
Add "When the PHY is in the PMA local loopback mode," to the front of the paragraph at line 5.  
or:  
delete line feed at line 5, adding the sentence at line 5 to the paragraph at line 1.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Already dealt with by #241

CI 147 SC 147.5.4.7 P 166 L 14 # 625  
Brandt, David Rockwell Automation

Comment Type T Comment Status D PMA

Transmitter impedance is specified elsewhere

## SuggestedRemedy

Replace:  
In test mode 4, a transmitter supporting the multidrop mode presents a minimum of 10 kΩ impedance to the line from DC to 25 MHz.

With:  
In test mode 4, a transmitter with multidrop mode supported and enabled shall present the minimum parallel impedance across the MDI attachment points as specified in 147.9.2 MDI electrical specification.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 147 SC 147.5.4.7 P 166 L 15 # 242  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type T Comment Status D PMA

A 10 kΩ impedance at 25 MHz would equal to a maximum capacitance of 0.64 pF. This value seems to be very hard to reach in combination, even with small PCB traces, a very low capacitance ESD protection and an MDI connector.

## SuggestedRemedy

What is likely meant is a resistance of 10 kohms at DC. Nevertheless specification of an impedance at up to 25 MHz is important to limit the MDI return loss. Technically more realistic would likely be an impedance of 1 kohm @ 25 MHz, which would be equal to approx. 6.4 pF. So suggestion is to change the wording in the following way: In test mode 4, a transmitter supporting the multidrop mode presents to the line a minimum DC resistance of 10 kΩ and a minimum AC impedance of 1 kΩ for frequencies up to 25 MHz. Alternatively the node capacitance can be aligned to 15 pF, which would mean an impedance of 424 ohms at 25 MHz.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Already dealt with by #625

CI 147 SC 147.6 P 166 L 19 # 243  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ

[EASY] 10BASE-T1S

## SuggestedRemedy

A 10BASE-T1S PHY

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

CI 147 SC 147.7 P 166 L 27 # 493  
Jones, Peter Cisco

Comment Type TR Comment Status D EZ

Change "such as industrial, automotive and automation controls" to "such as industrial, automotive and building automation controls"

## SuggestedRemedy

Make suggested change

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Already dealt with by #639

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

Cl 147 SC 147.7.2 P 166 L 48 # 245  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type T Comment Status D EZ

The text defines 0.1 MHz to 20 MHz, the equation specifies 0.3 MHz to 40 MHz.

## SuggestedRemedy

As for 10BASE-T1S most parameters are specified from 0.3 MHz to 40 MHz, the text needs to be adapted to 0.3 MHz to 40 MHz.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 147 SC 147.7.2 P 166 L 48 # 244  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ

20 (line break) MHz

## SuggestedRemedy

20 MHz (add a non breakable space between 20 and MHz).

Proposed Response Response Status W

PROPOSED ACCEPT.  
Already dealt with by #13

Cl 147 SC 147.7.2 P 166 L 49 # 562  
DiBiaso, Eric TE Connectivity

Comment Type ER Comment Status D EZ

The text "... using Equation (147-4) at all frequencies from 0.1 MHz to 20 MHz."

The frequency limits do not align with equation 147-4 which is 0.3 MHz to 40 MHz.

## SuggestedRemedy

Replace text with the following to align with equation 147-4.

"... using Equation (147-4) at all frequencies from 0.3 MHz to 40 MHz."

Proposed Response Response Status W

PROPOSED ACCEPT.  
Already dealt with by #245

Cl 147 SC 147.7.3 P 167 L 16 # 246  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type T Comment Status D EZ

Mode Conversion is specified for up to 200 MHz, while the frequency limits in line 20 are 0.3 to 40 MHz. Needs to be adjusted.

## SuggestedRemedy

Likely the 200 MHz are a copying error and need to be set to 40 MHz.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 147 SC 147.7.3 P 167 L 20 # 563  
DiBiaso, Eric TE Connectivity

Comment Type ER Comment Status D Link Segment

Equation (147-5) defines the mode conversion loss in two frequency regions from 0.3 MHz to 20 MHz and from 20 MHz to 200MHz. However the text in line 20 defines

"f is the frequency in MHz; 0.3 <= f <= 40".

## SuggestedRemedy

Replace 40 with 200 in line 20. New text should be:

"f is the frequency in MHz; 0.3 <= f <= 200".

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Already dealt with by #246

Cl 147 SC 147.8 P 167 L 24 # 247  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ

[EASY] . that meet the requirements .

## SuggestedRemedy

. that meets the requirements . (add "s")

Proposed Response Response Status W

PROPOSED REJECT.  
Media is the plural of medium, thus the plural form of the verb.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.8 P 167 L 28 # 248  
 Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ

[EASY] . based on automotive cabling supporting up to at least .

## SuggestedRemedy

. based on automotive cabling, supporting up to at least . (add comma)

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 147 SC 147.8 P 167 L 28 # 494  
 Jones, Peter Cisco

Comment Type TR Comment Status D EZ

Change "A mixing segment is specified based on automotive cabling" to "A mixing segment is specified based on cabling".

## SuggestedRemedy

Make suggested change

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Change "A mixing segment is specified based on automotive cabling supporting up to at least eight nodes and 25 m of cabling." to "A mixing segment is specified based on cabling that supports up to at least 8 nodes and 25 m in reach."

Note: Handle with #414

CI 147 SC 147.8 P 167 L 28 # 414  
 Jones, Chad Cisco

Comment Type TR Comment Status D EZ

"A mixing segment is specified based on automotive cabling supporting up to at least eight nodes and 25 m of cabling." this sentence implies that only automotive cabling is allowed. discussed this with the Chair, he informs that the mixing channel was DERIVED based upon automotive cabling. Therefore, it is much more accurate to say that. Also, let people know you can do more if you meet the cabling requirements.

## SuggestedRemedy

CHANGE TO: "The mixing segment specification is derived from automotive cabling supporting up to at least eight nodes and 25 m of cabling. Larger PHY count and reach may be achieved provided the mixing segment specifications in this subclause are met."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

First sentence of the paragraph has already been dealt with by #494, so the following is proposed here: "A mixing segment is specified based on cabling that supports up to at least 8 nodes and 25 m in reach. Larger PHY count and/or reach may be achieved provided the mixing segment specifications in this subclause are met."

CI 147 SC 147.8 P 167 L 29 # 249  
 Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ

[EASY] . and reference points is shown .

## SuggestedRemedy

. and reference points are shown . (plural)

Proposed Response Response Status W

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.8 P 167 L 33 # 626  
Brandt, David Rockwell Automation

Comment Type T Comment Status D Mixing Segment

Edge termination values are not specified

## SuggestedRemedy

Replace (2 times):  
Edge termination

With:  
Edge termination  
100 O

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Note: Mind the 2 omega symbols and the non-breaking white-spaces coming with them

CI 147 SC 147.8.1 P 168 L 1 # 250  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type E Comment Status D EZ

Ordering of Return Loss and Insertion loss is different to Clause 147.7.1 and 147.7.2.

## SuggestedRemedy

Reverse ordering of Clauses 147.8.1 and 147.8.2 to be aligned with the previous Clause ordering.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 147 SC 147.8.1 P 168 L 4 # 627  
Brandt, David Rockwell Automation

Comment Type T Comment Status D Mixing Segment

The stated combination of the link segment equation and the MDI load requires alteration of the equation. While this may be beneficial to allow joint optimization of the cable and the MDI circuit, it does not as well separate concerns, such as between harness design and device design. In addition, segment specification is not expected to include the MDI details.

Link segment equation references 100 O

## SuggestedRemedy

Replace:

The mixing segment shall meet the return loss characteristics specified for link segments in 147.7.2 at any MDI attachment point and with any combinations of up to at least seven other MDIs presenting minimum parallel load attached at any combination of permissible MDI attachment points.

With:

The mixing segment shall meet the return loss characteristics specified for link segments in 147.7.2 at any MDI attachment point. The reference impedance for the return loss specification is 50 O.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 147 SC 147.8.2 P 168 L 10 # 688  
Donahue, Curtis UNH-IOL

Comment Type E Comment Status D EZ

The "and" in "MDI attachment and at the end of stubs of length up to 10 cm" seems to be a typo.

## SuggestedRemedy

Remove the "and" so the section of text reads as "MDI attachment at the end of stubs of length up to 10 cm"

Proposed Response Response Status W

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **147** SC **147.8.2** P **168** L **10** # **628**  
Brandt, David Rockwell Automation

Comment Type **T** Comment Status **D** Mixing Segment

The stated combination of the link segment equation and the MDI load requires alteration of the equation. While this may be beneficial to allow joint optimization of the cable and the MDI circuit, it does not as well separate concerns, such as between harness design and device design. In addition, segment specification is not expected to include the MDI details.

## SuggestedRemedy

Replace:  
The mixing segment shall meet the insertion loss characteristics specified for link segments in 147.7.1 between any two MDI attachment and at the end of stubs of length up to 10 cm, and with any combinations of up to at least seven other MDIs presenting minimum parallel load attached at any combination of permissible MDI attachment points.

With:  
The mixing segment shall meet the insertion loss characteristics specified for link segments in 147.7.1 between any two MDI attachment points.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **147** SC **147.8.3** P **168** L **17** # **629**  
Brandt, David Rockwell Automation

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

The stated combination of the link segment equation and the MDI load requires alteration of the equation. While this may be beneficial to allow joint optimization of the cable and the MDI circuit, it does not as well separate concerns, such as between harness design and device design. In addition, segment specification is not expected to include the MDI details.

## SuggestedRemedy

Replace:  
The mixing segment shall meet the mode conversion loss characteristics specified for link segments in 147.7.3 at any MDI attachment points and with any combinations of up to at least seven other MDIs presenting minimum parallel load attached at any combination of permissible MDI attachment points.

With:  
The mixing segment shall meet the mode conversion loss characteristics specified for link segments in 147.7.3 between any pair of MDI attachment points.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **147** SC **147.9** P **168** L **24** # **251**  
Graber, Steffen Pepperl+Fuchs GmbH

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

The MDI interface connector definition is still requiring shielded connections.

## SuggestedRemedy

Likely a 2 pin connector (BI\_DA+ and BI\_DA-) needs to be defined and all references to the shield need to be removed from the text.

Proposed Response Response Status **W**

PROPOSED REJECT.

The text 147.9.1 does not require a shielded cable.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.9.1 P L 22 # 653  
Thompson, Geoff GraCaSI S.A.

Comment Type T Comment Status D Big Ticket Item MDI

There is no interoperable media connector specified. This severely limits the Broad Market Potential of this PHY, largely restricting it to internal connections of proprietary systems.

## SuggestedRemedy

Provide specifications or reference for a mechanical spec. for a interoperable media connector. (This comment will be repeated as an MBS comment during Sponsor Ballot)

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

Resolved by #571

CI 147 SC 147.9.1 P 168 L 28 # 618  
Kolesar, Paul CommScope

Comment Type TR Comment Status D Big Ticket Item MDI

The MDI connector specification is incomplete as it does not specify a form, nor does it delineate MICE operating conditions. The user would benefit by specifying both. Consider liaison input from ISO/IEC/JTC 1/SC 25/WG 3 for single balanced pair MDI specification.

## SuggestedRemedy

Add at the end of line 28: "For M11C1E1 environments (e.g. commercial buildings, data centers), two-pin connectors meeting the requirements of IEC 63171-1 shall be used as the mechanical interface to the single balanced pair cabling. These are depicted (for informational use only) in Figure 147-xx. For M21C2E2/M31C3E3 environments (e.g. industrial, process control), two pin connectors meeting the requirements of IEC 61076-3-125 shall be used as the mechanical interface to the single balanced pair cabling. These are depicted (for informational use only) in Figure 147-yy."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

Resolved by #571

CI 147 SC 147.9.1 P 168 L 28 # 571  
Shariff, Masood Commscope

Comment Type TR Comment Status D Big Ticket Item MDI

Clarify and complete the MDI connector specification. Consider liaison input from ISO/IEC/JTC 1/SC 25/WG 3 for single balanced pair MDI specification

## SuggestedRemedy

Add at the end of line 28: "For M11C1E1 environments (e.g. commercial buildings, data centers), two-pin connectors meeting the requirements of IEC 63171-1 shall be used as the mechanical interface to the single balanced pair cabling. These are depicted (for informational use only) in Figure 147-xx. For M21C2E2/M31C3E3 environments (e.g. industrial, process control), two pin connectors meeting the requirements of IEC 61076-3-125 shall be used as the mechanical interface to the single balanced pair cabling. These are depicted (for informational use only) in Figure 147-yy."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

CI 147 SC 147.9.2 P 168 L 31 # 409  
Jones, Chad Cisco

Comment Type E Comment Status D EZ

"based on imped- ance Equation (147-6) "

## SuggestedRemedy

CHANGE TO: "based on THE impedance IN Equation (147-6)

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Change "based on impedance Equation (147-6)" to "per"

CI 147 SC 147.9.2 P 168 L 33 # 684  
Donahue, Curtis UNH-IOL

Comment Type E Comment Status D EZ

Ctot is defined in the paragraph, but not actually used in Equation 147-6.

## SuggestedRemedy

Remove references and language specific to Ctot.

Proposed Response Response Status W

PROPOSED ACCEPT.



# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.9.2 P 168 L 37 # 410  
Jones, Chad Cisco

Comment Type ER Comment Status D EZ  
EQ 147-6. The font for the numerator is HUGE. Fix it.

SuggestedRemedy  
change font in numerator of Eq 147-6 to match the rest of the Eq.

Proposed Response Response Status W  
PROPOSED ACCEPT.  
Already dealt with by #333

CI 147 SC 147.9.2 P 168 L 37 # 630  
Brandt, David Rockwell Automation

Comment Type E Comment Status D EZ  
Numerator 1 is too large of a font

SuggestedRemedy  
Match fonts in equation

Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Already dealt with by #333

CI 147 SC 147.9.2 P 168 L 37 # 333  
Yseboodt, Lennart Signify

Comment Type E Comment Status D EZ  
Equation 147-6 has a formatting issue (inflated '1').

SuggestedRemedy  
Make '1' a normal size.

Proposed Response Response Status W  
PROPOSED ACCEPT.

CI 147 SC 147.9.2 P 168 L 38 # 17  
Lusted, Kent Intel

Comment Type E Comment Status D EZ  
The numerator in Equation 147-6 is usually large.

SuggestedRemedy  
Consider making the numerator uniform in size with the fonts in the denominator.

Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Already dealt with by #333

CI 147 SC 147.9.2 P 168 L 43 # 252  
Graber, Steffen Pepperl+Fuchs GmbH

Comment Type T Comment Status D MDI  
Just taking the 15 pF per node into account, this leads to an impedance at 40 MHz of 265 ohms (having 7 non-transmitting nodes, this leads to approx 38 ohms in total (if they are all in parallel). This likely will present a worse RL compared to equation 147-4.

SuggestedRemedy  
Probably a note makes sense, which states, that when having nodes with worst case capacitance connected at the same position of the mixing segment, the RL definitions of a mixing segment may be exceeded and that care needs to be taken during the planning of the network (alternatively the capacitance or the relevant frequency range may be reduced).

Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
TFTD  
TODO: add "The implementer is cautioned that loading the mixing segment with multiple nodes with worst case capacitance at the same location on the mixing segment may cause the mixing segment to exceed its return loss specification. " at line 44 as a new paragraph after "0.3 <= f <= 40."

## Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **147** SC **147.9.3** P **168** L **45** # **422**  
Jones, Chad Cisco

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

This section is titled MDI fault tolerance but includes tolerance of PoDL voltages which is a normal operating condition. On top of it, this compound shall statement potentially makes it difficult to parse the requirements. Suggest to split this into two sections and split the requirements into two shalls.

I also took the liberty to rearrange the sentence structure for easier parsing.

### SuggestedRemedy

Break 147.9.3 into two sections.

REPLACE 147.9.3 with:

147.9.3 MDI PoDL voltage tolerance

The wire pair of the MDI shall withstand without damage the application of positive voltages of up to 60 V dc with the source current limited to 1200 mA, under all operating conditions, for an indefinite period of time. This requirement ensures that all devices tolerate PoDL voltages even if the device does not require power.

147.9.4 MDI fault tolerance

The wire pair of the MDI shall withstand without damage the application of short circuits of any wire to the other wire of the same pair or ground potential, as per Table 147-4, under all operating conditions, for an indefinite period of time. Normal operation shall resume after the short circuit(s) is/are removed.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

TODO:

- Change "147.9.3 MDI fault tolerance" to "147.9.3 MDI PoDL voltage tolerance"

- Put the following text under "147.9.3 MDI fault tolerance":

====

The wire pair of the MDI shall withstand without damage the application of positive voltages of up to 60 V dc with the source current limited to 1200 mA, under all operating conditions indefinitely. This requirement ensures that all devices tolerate PoDL voltages even if the device does not require power.

====

- Create new chapter "147.9.4 MDI fault tolerance"

- Put the following text under "147.9.4 MDI fault tolerance":

====

The wire pair of the MDI shall withstand without damage the application of short circuits of any wire to the other wire of the same pair or ground potential, as per Table 147-4, under all operating conditions indefinitely. Normal operation shall resume after all short circuits have been removed.

====

Note: mind the links

CI **147** SC **147.9.3** P **169** L **7** # **364**  
Matheus, Kirsten BMW AG

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

Where do the values for L come from? Unless we use PoDL they seem way to high. It states nowhere if this is optional or for PoDL only

### SuggestedRemedy

Needs to be better described in the document.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

TODO:

- Add a new figure that shows what these values (e.g. the inductance) are/mean -> coming from Piergiorgio

CI **147** SC **147.9.3** P **169** L **7** # **738**  
Baggett, Tim Microchip

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

MDI impedance limit parameters need adjustment.

As PoDL will not be used, inductance should not be required, and therefore eliminated.

Also, additional capacitance may be needed to filter out higher frequency noise. A LPF with 3dB cutoff should be more than 125 MHz (10x the DME frequency) results in the need for 25.4pF of differential capacitance.

### SuggestedRemedy

- Remove the Inductance parameter, or reduce L (minimum) to 0.

- Change Cnode to 25 pF (maximum)

- Change Ctot to 250 pF (maximum)

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

Task Force to discuss.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **147** SC **147.10.1** P **169** L **38** # **443**  
Wienckowski, Natalie General Motors

Comment Type **T** Comment Status **D** Big Ticket Item Safety  
ISO 26262 does not apply to all automotive applications.

## SuggestedRemedy

Change: All equipment subject to this clause and intended for motor vehicle applications shall conform to ISO 26262.

To: All equipment subject to this clause and intended for motor vehicle applications shall conform to ISO 26262 only if required by the given application.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change "All equipment subject to this clause and intended for motor vehicle applications shall conform to ISO 26262. All equipment subject to this clause may be additionally required to conform to any applicable local, state, or national motor vehicle standards or as agreed to between the customer and supplier." to "All equipment subject to this clause shall conform to all applicable local, state, national standards, as well as relevant application specific standards (e.g., ISO 26262 for automotive applications)."

Note: mind the non-breaking white-spaces

CI **147** SC **147.10.1** P **169** L **39** # **411**  
Jones, Chad Cisco

Comment Type **TR** Comment Status **D** Big Ticket Item Safety  
yet another inappropriate customer and supplier reference. "All equipment subject to this clause may be additionally required to conform to any applicable local, state, or national motor vehicle standards or as agreed to between the customer and supplier." Delete this.

## SuggestedRemedy

CHANGE TO: "All equipment subject to this clause may be additionally required to conform to any applicable local, state, or national motor vehicle standards."

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

Already dealt with by #443

CI **147** SC **147.10.1** P **169** L **40** # **495**  
Jones, Peter Cisco

Comment Type **TR** Comment Status **D** Big Ticket Item Safety  
Change "any applicable local, state, or national motor vehicle standards or as agreed to between the customer and supplier." to "any applicable local, state, or national standards."

## SuggestedRemedy

Make suggested change

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

Already dealt with by #443

CI **147** SC **147.10.2** P **169** L **42** # **496**  
Jones, Peter Cisco

Comment Type **TR** Comment Status **D** Big Ticket Item Safety  
The "Network Safety" clause is a lot smaller than 3bz "126.9.2 Network safety". Since this will be used in similar or worse environments, why don't we have the same material? 802.3bz starts with "This subclause sets forth a number of recommendations and guidelines related to safety concerns; the list is neither complete nor does ..."

## SuggestedRemedy

Review 802.3bz "126.9.2 Network safety" and carry across text as appropriate.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

CI **147** SC **147.10.2** P **169** L **42** # **497**  
Jones, Peter Cisco

Comment Type **TR** Comment Status **D** EZ  
Add "The designer is urged to consult the relevant local, national, and international safety regulations to ensure compliance with the appropriate requirements." from 3bz 126.9.2 Network safety

## SuggestedRemedy

Make suggested change

Proposed Response Response Status **W**

PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

Cl **147** SC **147.10.2** P **169** L **45** # **412**  
 Jones, Chad Cisco  
 Comment Type **TR** Comment Status **D** Safety  
 to untestable SHALLS in this section. Replace 'shall be' with 'is' in two spots.  
 SuggestedRemedy  
 REPLACE: "shall be" with "is" on line 45 and line 47  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

Cl **147** SC **147.10.2.1** P **169** L **50** # **498**  
 Jones, Peter Cisco  
 Comment Type **TR** Comment Status **D** Safety  
 This clause contains lists of automotive and industrial environments, but is missing building environments  
 SuggestedRemedy  
 Add appropriate standards  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Already dealt with by #443

Cl **147** SC **147.10.2.1** P **170** L **9** # **734**  
 Maguire, Valerie The Siemon Company  
 Comment Type **E** Comment Status **D** Late  
 Date in normative reference in 8023.cj is 2008.  
 SuggestedRemedy  
 Replace "ISO 7637-2:2008" with "ISO 7637-2"  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

Cl **147** SC **147.10.2.1** P **170** L **11** # **733**  
 Maguire, Valerie The Siemon Company  
 Comment Type **E** Comment Status **D** Late  
 IEC 60068-2-1/27/30/38/52/64/78 is shorthand for a series of seven Standards. A search on IHS for "1/27/30/38/52/64/78" yields a null return.  
 SuggestedRemedy  
 Replace, "60068-2-1/27/30/38/52/64/78" with "IEC 60068-2-1, IEC 60068-2-27, IEC 60068-2-30, IEC 60068-2-38, IEC 60068-2-52, IEC 60068-2-64, and IEC 60068-2-78"  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

Cl **147** SC **147.10.2.1** P **170** L **17** # **735**  
 Maguire, Valerie The Siemon Company  
 Comment Type **E** Comment Status **D** Late  
 IEC 60068-2-6/31 is shorthand for a series of two Standards. A search on IHS for "IEC 60068-2-6/31" yields a null return.  
 SuggestedRemedy  
 Replace, "IEC 60068-2-6/31" with "IEC 60068-2-6 and IEC 60068-2-31"  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

Cl **147** SC **147.10.2.1** P **170** L **18** # **736**  
 Maguire, Valerie The Siemon Company  
 Comment Type **E** Comment Status **D** Late  
 IEC 60068-2-1/2/14/27/30/38/52/78 is shorthand for a series of eight Standards. A search on IHS for "IEC 60068-2-1/2/14/27/30/38/52/78" yields a null return.  
 SuggestedRemedy  
 Replace, "IEC 60068-2-1/2/14/27/30/38/52/78" with "IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-14, IEC 60068-2-27, IEC 60068-2-30, IEC 60068-2-38, IEC 60068-2-52, and IEC 60068-2-78"  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 147 SC 147.10.2.2 P 170 L 25 # 413  
Jones, Chad Cisco

Comment Type TR Comment Status D EZ

yet another inappropriate customer and supplier reference. "In addition, the system may need to comply with more stringent requirements as agreed upon between customer and supplier, for the limitation of electromagnetic interference."

## SuggestedRemedy

CHANGE TO: "In addition, the system may need to comply with more stringent requirements for the limitation of electromagnetic interference."

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 147 SC 147.10.2.2 P 170 L 28 # 499  
Jones, Peter Cisco

Comment Type TR Comment Status D EZ

The text says "10BASE-T1S PHY shall be tested according to IEC CISPR 25 test methods...". CISPR 25 seems to be only applicable to automotive environments (<https://webstore.iec.ch/publication/26122> CISPR 25:2016 Vehicles, boats and internal combustion engines - Radio disturbance characteristics - Limits and methods of measurement for the protection of on-board receiver)

## SuggestedRemedy

Either remove the CISPR 25 test, add equivalent tests for industrial and building environments, or explain how CISPR 25 applies to industrial and building environments.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Remove 170/27-29, namely "A 10BASE-T1S PHY shall be tested according to IEC CISPR 25 test methods defined to measure the PHY's EMC performance in terms of radio frequency (RF) immunity and RF emissions."

CI 147 SC 147.10.2.2 P 170 L 28 # 728  
Maguire, Valerie The Siemon Company

Comment Type E Comment Status D Late

IEC is not part of the Normative Reference in the 802.3 main document

## SuggestedRemedy

Replace, "IEC CISPR 25" with "CISPR 25"

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

No change to the document required.

Chief Editor to work with Natalie Wienckowski to create a Maintenance Request updating CISPR 25 references in the 802.3-2018 Standard to IEC CISPR 25 and check to see if other CISPR references need to be addressed, too.

CI 147 SC 147.11 P 170 L 31 # 500  
Jones, Peter Cisco

Comment Type TR Comment Status D Delay

Add PAUSE reaction times

## SuggestedRemedy

make suggested change

Proposed Response Response Status W

PROPOSED REJECT.

All this PAUSE (and other control solutions) is (are) for over 100Mbps

CI 147 SC 147.12 P 171 L 1 # 685  
Donahue, Curtis UNH-IOL

Comment Type E Comment Status D PICS

Tell that lazy PICS editor to populate the PICS for Clause 147.

## SuggestedRemedy

Give the PICS editor license to populate 147.12 as necessary.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Already dealt with by #117

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

Cl 147 SC 147.12 P 171 L 1 # 501  
 Jones, Peter Cisco  
 Comment Type **TR** Comment Status **D** PICS  
 Complete PICS  
 SuggestedRemedy  
 Complete PICS  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Already dealt with by #117

Cl 147 SC 147.12.1 P 171 L 7 # 115  
 Anslow, Pete Ciena  
 Comment Type **E** Comment Status **D** EZ  
 ". claimed to conform to Clause 147, clause title, shall ." should be ". claimed to conform to Clause 147, Physical Coding Sublayer (PCS), Physical Medium Attachment (PMA) sublayer and baseband medium, type 10BASE-T1S, shall ."  
 SuggestedRemedy  
 Change ". claimed to conform to Clause 147, clause title, shall ." to ". claimed to conform to Clause 147, Physical Coding Sublayer (PCS), Physical Medium Attachment (PMA) sublayer and baseband medium, type 10BASE-T1S, shall ."  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

Cl 147 SC 147.12.2.2 P 171 L 35 # 116  
 Anslow, Pete Ciena  
 Comment Type **E** Comment Status **D** EZ  
 "IEEE Std 802.3xx-201x" should be "IEEE Std 802.3cg-201x" in two places.  
 ", clause title" should be ", Physical Coding Sublayer (PCS), Physical Medium Attachment (PMA) sublayer and baseband medium, type 10BASE-T1S"  
 SuggestedRemedy  
 Change "IEEE Std 802.3xx-201x" to "IEEE Std 802.3cg-201x" in two places.  
 Change ", clause title" to ", Physical Coding Sublayer (PCS), Physical Medium Attachment (PMA) sublayer and baseband medium, type 10BASE-T1S"  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

Cl 147 SC 147.12.3 P 172 L 1 # 117  
 Anslow, Pete Ciena  
 Comment Type **ER** Comment Status **D** PICS  
 With a blank PICS section, this draft is not ready to move to Sponsor ballot, hence this is a required comment.  
 SuggestedRemedy  
 Populate the PICS section for Clause 147.  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Give the PICS editor license to populate 147.12 as necessary

Cl 148 SC 148 P L # 556  
 Beruto, Piergiorgio Canova Tech Srl  
 Comment Type **T** Comment Status **D** PLCA  
 PLCA is missing a way to report whether the BEACON is currently being received or transmitted  
 SuggestedRemedy  
 Add modifications as in attached beruto\_3cg\_PLCA\_status.pdf slides 3 to 8  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Apply modifications as in  
[http://www.ieee802.org/3/cg/public/adhoc/beruto\\_3cg\\_PLCA\\_status.pdf](http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_PLCA_status.pdf) slides 3 to 7.

Implementation of slide 8 has been changed, add also proposed resolution in Clause\_45\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 148 SC 148 P 173 L # 287  
KIM, YONG NIO

Comment Type TR Comment Status D PLCA

CL 4.3.3 variable definition of carrierSense is in conflict with how CL173 PLCA is using carrier sense. "The overall event of activity on the physical medium is signaled to the MAC sublayer by the variable carrierSense". And "var carrierSense: Boolean; In half duplex mode, the MAC sublayer shall monitor the value of carrierSense to defer its own transmissions when the medium is busy. The Physical Layer sets carrierSense to true immediately upon detection of activity on the physical medium. After the activity on the physical medium ceases, carrierSense is set to false. Note that the true/false transitions of carrierSense are not defined to be precisely synchronized with the beginning and the end of the frame, but may precede the beginning and lag the end, respectively. (See 4.2 for details.) In full duplex mode, carrierSense is undefined." CL173 use of carrier sense is in conflict w/ CL4. These conflicted use are pervasive, e.g. CL148.4.6.1 holds carrier\_on active even when there is no activity on the physical medium.

## SuggestedRemedy

Either include CL4 carrier sense related maintenance changes as a part of PLCA, or change PLCA to work with CL4 carrier sense as defined.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Carrier Sense use has been changed by #649.

Proposed resolution in Clause\_148\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes.

NOTE: variables are defined in a logical, not physical sense for Clause 4. The text referenced in Clause 4 is not normative, but is informative descriptive text which follows the primary description of the variable. The usage in Clause 148 is consistent with the primary description in clause 4, which is:

"The overall event of activity on the physical medium is signaled to the MAC sublayer by the variable  
carrierSense:  
var carrierSense: Boolean;"

The description that the commenter cites is in a subsequent paragraph and relates to how particular PHYs of the day worked, as further informative text. PLCA-enabled PHYs utilize carrierSense to convey the overall event of activity on the physical medium, consistent with conveying the "overall event of activity on the physical medium."

In this context, Carrier Sense is used in other 802.3 clauses to prevent the MAC from transmitting even if the line is not physically busy. See for example EEE in Clause 78.1.3.1"

Furthermore, this concept is further confirmed by looking at Annex 4A:

"The overall event of congestion at the Physical Layer, indicating that the Physical Layer is not ready to accept the next packet, is signaled to the MAC sublayer by the variable carrierSense:

var carrierSense: Boolean;

When the value of variable carrierSenseMode is set to TRUE, the MAC sublayer shall monitor the value of carrierSense to defer its own transmissions when the Physical Layer is busy. The Physical Layer sets carrierSense to true immediately upon congestion within the Physical Layer. After the congestion ceases, carrierSense is set to false."

In above referenced text it seems clear that the carrierSense variable is used to defer a transmission from the MAC but it's the Physical Layer that actually defines the very concept of being "busy".

CI 148 SC 148 P 173 L 1 # 656  
Thompson, Geoff GraCaSI S.A.

Comment Type TR Comment Status D ig Ticket Item PLCA\_SCOPE

The inclusion of PLCA in this project is (1) a layer violation and (2) out of scope for a Physical Layer project according to clause 1.1 of the standard. Inclusion of PLCA conflicts with paragraph 3 of the responses to the "Compatibility" criteria of the CSD.

## SuggestedRemedy

Remove clause 148 and related text from the draft. If PLCA is desired as an addition to the standards family it should be placed appropriately within the layer structure and have its own CFI.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
TFTD

Defining an RS is in scope of a Physical Layer project. This has been done in other 802.3 projects as well.

The nature of a RS often appears to blur the layering and the functionality needs to be looked at further.

PLCA is not violating layers, in fact it's interoperable with non PLCA-enabled nodes as presented in  
[http://www.ieee802.org/3/cg/public/adhoc/beruto\\_3cg\\_mixing\\_PLCA\\_with\\_non\\_PLCA\\_enabled\\_nodes.pdf](http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_mixing_PLCA_with_non_PLCA_enabled_nodes.pdf)

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 148 SC 148 P 176 L 33 # 716  
Kabra, Lokesh Synopsys Inc  
Comment Type T Comment Status D PLCA  
Same reasons as above  
SuggestedRemedy  
Delete 148.4.2.1, Correct Fig 148-3 to remove optional "SFD Detect TX" block  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Proposed resolution in Clause\_148\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes.

CI 148 SC 148,4.4.1.1 P 178 L 34 # 267  
KIM, YONG NIO  
Comment Type TR Comment Status D EDITORIAL  
"PLCA Control state machine generates a BEACON request by way of the tx\_cmd variable as specified in 148.4.5.2". But tx\_cmd in 148.4.5.2 does not specify such behavior. And refers back to 148.4.4.1.1.  
SuggestedRemedy  
please fix it.  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Proposed resolution in Clause\_148\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes.

CI 148 SC 148.1 P 173 L 1 # 598  
Lapak, Jeffrey UNH-IOL  
Comment Type T Comment Status D PLCA  
The proposed PLCA protocol is not interoperable as does not have a method for the automatic assignment of "local\_nodeID". As proposed this value must be set via MDIO for each device in a network, leading to an engineered system.  
  
This is an unoptimized solution that requires no frames to be passed, the intent is to start discussion. This idea is unoptimized in that it creates a potentially unused transmission opportunity each round for new devices to enter the network. This creates an  $(1 / (n+1))$  percent reduction in potential capacity where n = the current number of nodes in the network

SuggestedRemedy  
Default local\_nodeID to "1" and MAX\_ID to "1"  
  
Add an additional timer, states, and variables such that if no BEACON is received by that timer expiration, the station assumes the local\_nodeID of "0" and MAX\_ID = "1".  
  
Allow all devices which have local\_nodeID = "1" to transmit during curID = 1. Due to CSMA/CD it does not guarantee transmission, but if no collision is detected all devices with local\_nodeID != 0 increment their local\_node\_ID and MAX\_ID and the device which transmitted without a collision takes on local\_nodeID=2 and MAX\_ID=2.  
Proposed Response Response Status W  
PROPOSED REJECT.  
The problem of assigning node IDs has been discussed in 802.3cg TF and although it's a desired feature in some cases, it's out of scope of this project.

CI 148 SC 148.1 P 173 L 5 # 589  
Healey, Adam Broadcom Inc.  
Comment Type T Comment Status D EDITORIAL  
The first sentence defines the expansion of "PLCA" to be "PHY Level Collision Avoidance". Elsewhere, it is expanded to "Physical Layer Collision Avoidance". I believe the latter is intended.  
SuggestedRemedy  
The first use of "PLCA" is this clause is in the Clause 148 heading and should be expanded there to be "Physical Layer Collision Avoidance". Update the first sentence of 148.1 to be consistent.  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Proposed resolution in Clause\_148\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes.



# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 148 SC 148.1 P 173 L 10 # 599  
KIM, YONG NIO

Comment Type TR Comment Status D PLCA

says "MII. are compatible with the gRS. ". The statement may become true if all appropriate changes to CL22 are made to ensure this statement to be true. CL22 conveys PLS signals to MII. CL148 performs medium access control. So they are not compatible prior to changes.. Also not clear is what is being conveyed as "compatible".

## SuggestedRemedy

Delete the sentence, and any other occurrence of similar statement. If this statement is kept (against this comment), clarify what is meant to be "compatible"

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Proposed resolution in Clause\_148\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes.

CI 148 SC 148.1 P 173 L 14 # 657  
Thompson, Geoff GraCaSI S.A.

Comment Type TR Comment Status D ig Ticket Item PLCA\_SCOPE

According to this text, "PLCA is designed to work on top of CSMA/CD". Therefore it is mispositioned in the stack by being placed within the PHY which is below the CSMA/CD mechanism.

## SuggestedRemedy

Remove clause 148 and related text from the draft. If PLCA is desired as an addition to the standards family it should be placed appropriately at MAC Control or higher within the layer structure and have its own CFI.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Proposed resolution in Clause\_148\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes.

NOTE: Intention was to specify that PLCA is not a replacement of CSMA/CD but instead it's a method that works in conjunction with CSMA/CD functions.

CI 148 SC 148.1 P 173 L 15 # 284  
KIM, YONG NIO

Comment Type TR Comment Status D ig Ticket Item PLCA\_SCOPE

"PLCA is designed to work on top of CSMA/CD and can be dynamically enabled or disabled via management interface. When disabled, the system operates as specified in Clause 22." makes no sense. Second sentence - CL22 has been modified to add PLCA support. First sentence -- it does NOT work on top of CSMA/CD. PLCA uses Carrier sense and collision detect in completely different manner to perform alternative media access method.

## SuggestedRemedy

Delete paragraph (both sentences), or make it technical correct.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
WRT "When disabled, the system operates as specified in Clause 22" - CL22 has been modified to add PLCA support: Modifications to Clause 22 are not in effect when PLCA is not supported or not enabled. This is clearly stated in references text.

WRT to "PLCA is designed to work on top of CSMA/CD", this is solved by #657

Proposed resolution in Clause\_148\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes.

WRT to "PLCA uses Carrier sense and collision detect in completely different manner to perform alternative media access method":  
Carrier Sense has been used in other 802.3 standards to prevent MAC from transmitting, even when the medium is not busy. See also #287.

CI 148 SC 148.2 P 173 L 19 # 503  
Jones, Peter Cisco

Comment Type TR Comment Status D PLCA

Change "is granted, in turn, a single transmit opportunity" to "is granted transmit opportunities"

## SuggestedRemedy

make suggested change

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Proposed resolution in Clause\_148\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 148 SC 148.2 P 173 L 20 # 502  
 Jones, Peter Cisco  
 Comment Type TR Comment Status D PLCA  
 Change "its assigned unique node ID" to "its assigned unique node ID (set via management control)".  
 SuggestedRemedy  
 make suggested change  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Proposed resolution in Clause\_148\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes.

CI 148 SC 148.2 P 173 L 25 # 504  
 Jones, Peter Cisco  
 Comment Type TR Comment Status D PLCA  
 Text says "Transmit opportunities are generated in a round-robin fashion". This should be the simplest, but not the only, option. Need to enable management to tweak this to weight the shares of the media.  
 SuggestedRemedy  
 remove "round-robin fashion"  
 Proposed Response Response Status W  
 PROPOSED REJECT.  
 This is descriptive text that explains what the specification actually does. The commenter is basically asking for a new feature which requires functional changes to the normative parts.

CI 148 SC 148.2 P 173 L 25 # 286  
 KIM, YONG NIO  
 Comment Type TR Comment Status D PLCA  
 "...round-robin fashion every time the PHY with node ID = 0 signals a BEACON on the medium, indicating the start of a new cycle" -- this specification does not describe how a node ID=0 is selected (or elected), and how the system handles duplicate node id=0 or absense of node id=0. Also not specified are node id conflict (duplicate node id s)  
 SuggestedRemedy  
 The draft is not complete without these specifications. Specify these to complete the spec. Ethernet std has management optional, config rules are known, and required protocol to config are specified (e.g. channel traninig)

Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 WRT node ID assignment, this is out of scope of this project. See also #598.  
 WRT to duplicate IDs, this is solved by #550. See also  
[http://www.ieee802.org/3/cg/public/adhoc/beruto\\_3cg\\_mixing\\_PLCA\\_with\\_non\\_PLCA\\_enabled\\_nodes.pdf](http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_mixing_PLCA_with_non_PLCA_enabled_nodes.pdf)

CI 148 SC 148.2 P 173 L 26 # 505  
 Jones, Peter Cisco  
 Comment Type TR Comment Status D PLCA  
 Text states "This can only happen after each PHY has been given exactly one transmit opportunity, thus ensuring media access fairness." I believe that it is a requirement to allow weighting of transmission opportunities . Also, the media is fair only on a frame basis, not on a byte basis  
 SuggestedRemedy  
 Change "This can only happen after each PHY has been given exactly one transmit opportunity, thus ensuring media access fairness." to "This happen after each PHY has had it's transmisson oppertunity/oppertunities."

Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Proposed resolution in Clause\_148\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes.

NOTE: the way Clause 148 is written provides only a single transmit opportunity, if you want to change this the whole specification has to be changed. This is only a description.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 148 SC 148.2 P 173 L 27 # 365  
 Matheus, Kirsten BMW AG  
 Comment Type E Comment Status D PLCA  
 "exactly" is not right. We might want to give more than 1 transmit opportunity to every node.  
 SuggestedRemedy  
 exchange "exactly" with "minimum" or "at least" or remove the sentence  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Solved by #505

CI 148 SC 148.2 P 173 L 29 # 285  
 KIM, YONG NIO  
 Comment Type TR Comment Status D PLCA  
 "a multidrop network is granted, in turn, a single transmit opportunity" makes little sense.  
 SuggestedRemedy  
 Either clarify or delete.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Solved by #505

CI 148 SC 148.3 P 173 L 29 # 506  
 Jones, Peter Cisco  
 Comment Type TR Comment Status D EDITORIAL  
 Change "PLCA relies on CSMA/CD functions to have the MAC delay a transmission" to  
 "PLCA relies on the COL signal to have the MAC delay transmission"  
 SuggestedRemedy  
 make suggested change  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 PLCA is an RS and interface with the MAC is done by the means of PLS primitives.  
 Proposed resolution in Clause\_148\_r2p0\_resolution.pdf. Changes are marked with  
 #comment number in the right boxes.

CI 148 SC 148.3 P 173 L 38 # 118  
 Anslow, Pete Ciena  
 Comment Type E Comment Status D EZ  
 "Clause 90" is an external cross-reference, so should be in forest green  
 SuggestedRemedy  
 Apply Character Tag "External" to "Clause 90"  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 148 SC 148.3 P 174 L 27 # 253  
 Graber, Steffen Pepperl+Fuchs GmbH  
 Comment Type E Comment Status D EZ  
 [EASY] "PMA" text is overlaying the Figure 148-1 description.  
 SuggestedRemedy  
 Remove "PMA" from line 27.  
 Proposed Response Response Status W  
 PROPOSED ACCEPT.

CI 148 SC 148.3 P 174 L 28 # 687  
 Donahue, Curtis UNH-IOL  
 Comment Type E Comment Status D EZ  
 Looks like there is a strange image artifact in the title of Figure 148-1. "PMA" appears in  
 small text overlaying "model and".  
 SuggestedRemedy  
 Remove rogue "PMA" text from figure  
 Proposed Response Response Status W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Solved by #253

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 148 SC 148.3 P 174 L 28 # 119  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

There is a spurious "PMA" just above the second line of the title of Figure 148-1

## SuggestedRemedy

Delete it.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Solved by #253

CI 148 SC 148.3 P 174 L 28 # 697  
Xu, Dayin Rockwell Automation

Comment Type E Comment Status D EZ

A strange "PMA" text shown in the Figure Title

## SuggestedRemedy

Clean up the title and delete "PMA"

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Solved by #253

CI 148 SC 148.4.1 P 176 L 19 # 366  
Matheus, Kirsten BMW AG

Comment Type E Comment Status D EZ

in the text the variable is called rx\_cmd with underscore. Is it correct that there is no tx\_cmd in the picture?

## SuggestedRemedy

exchange "rxcmd" with "rx\_cmd"

Proposed Response Response Status W

PROPOSED ACCEPT.

In Figure 148-3 replace "rxcmd" with "rx\_cmd"

CI 148 SC 148.4.1.1 P 175 L 6 # 288  
KIM, YONG NIO

Comment Type TR Comment Status D PLCA

The Figure 148-2 does not belong in CL148. If it becomes desirable to have it, it should be added to CL22 and reviewed for generic model correctness. CL22.1.1 lists summary of major concepts, gRS should be consistent with that

## SuggestedRemedy

Delete, or move it to CL22 with modifications to align it to CL22.1.1

Proposed Response Response Status W

PROPOSED REJECT.

The purpose of a RS is to specify mapping between MAC PLS primitives and MII signals, so the figure belongs to C148 which is an RS. See also Figure 90-2 (TSSI).

CI 148 SC 148.4.2 P 175 L 32 # 715  
Kabra, Lokesh Synopsys Inc

Comment Type T Comment Status D PLCA

As per Clause 90.1, paragraphy 2, "The TSSI is defined for the full-duplex mode of operation only". PLCA is defined/active for half-duplex only. Hence they are not operating simultaneously.

## SuggestedRemedy

Delete "Interaction with optional Clause 90 (Ethernet support for time synchronization protocols) is also depicted."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Proposed resolution in Clause\_148\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes.

CI 148 SC 148.4.2 P 176 L # 290  
KIM, YONG NIO

Comment Type TR Comment Status D PLCA

PLCA is not a generic RS.

## SuggestedRemedy

Please correct and clarify.

Proposed Response Response Status W

PROPOSED REJECT.

Commenter did not provide sufficient explanation or remedy.

PLCA is a generic RS because it could in principle be adopted by different PHYs using different line codings, possibly working in conjunction with other gRS like e.g. TSSI.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

SORT ORDER: Clause, Subclause, page, line

CI 148  
SC 148.4.2

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# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 148 SC 148.4.2 P 176 L # 289  
KIM, YONG NIO

Comment Type TR Comment Status D g Tocket Item PLCA\_SCOPE

RS is defined in CL1 "1.4.425 Reconciliation Sublayer (RS): A mapping function that reconciles the signals at the Media Independent Interface (MII) to the Media Access Control (MAC)-Physical Signaling Sublayer (PLS) service definitions. (See IEEE Std 802.3, Clause 22.)", and consistent with CL22.1.1. Even when MII signals are used to convey signals for EEE, it is still performing reconciliation. PLCA is using signals in RS (collision, carrier-sense, etc) while creating a completely different and new medium access control (MAC) method. PLCA function does not belong in RS.

## SuggestedRemedy

Move PLCA outside of RS (which only translates MII signals to PLS signals, for the dataplane as well as control like EEE states, not a new media access control method. And if necessary, revise CSD and objectives as appropriate.

Proposed Response Response Status W

PROPOSED REJECT.  
PLCA is actually mapping existing MAC PLS primitives to MII, which is in-line with what an RS is supposed to do.

CI 148 SC 148.4.3.4 P 177 L 48 # 120  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

In "shall be the one specified in clause 22.2.1.4" the word "clause" should not be there and 22.2.1.4 should be in forest green.

## SuggestedRemedy

change to "shall be the one specified in 22.2.1.4" and apply character tag "External" to "22.2.1.4".

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 148 SC 148.4.3.5 P 178 L 14 # 121  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

References to other subclauses in the 802.3 standard are not prefaced by "clause". Same issue in 148.4.3.6 and 148.4.3.7

## SuggestedRemedy

In 148.4.3.5, 148.4.3.6, and 148.4.3.7 delete "clause"

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 148 SC 148.4.4.1 P 178 L 29 # 507  
Jones, Peter Cisco

Comment Type TR Comment Status D EDITORIAL

I'd really like to see more high level description of what BEACON and COMMIT are used for, before diving into the details. Please add more descriptive text on the uses of these to 148.2.

## SuggestedRemedy

make suggested change

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Proposed resolution in Clause\_148\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes.

CI 148 SC 148.4.4.1.1 P 178 L 34 # 600  
KIM, YONG NIO

Comment Type T Comment Status D PLCA

22.2.2.4 is green -- should be xref (editorial). BEACON request referenced modified in 22.2.2.4 text. This prompted me to question how best plca should be specified wrt CL22. Ideally, all PLCA related functions should be in CL148, and limit changes to CL22 to only that the necessary minimum, such that old RS reference is CL22 ("PLCA function disabled"), and PLCA RS is CL148. Changes to CL22 and CL148 are not made in such clear partition.

## SuggestedRemedy

Move all CL148 related changes in CL22 into CL148, or provide convincing rationale why PLCA functions are distributed between the two clauses.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Xref solved by #137

WRT CL22/CL148 split:  
PLCA defines new MII codes (ignored when PLCA is not supported) in tables 22-1 and 22-2, which belong to CL22.  
This is what have been done for EEE as well.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **148** SC **148.4.4.1.1** P **178** L **34** # **137**  
Anslow, Pete Ciena

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

22.2.2.4 and 22.2.2.8 are included in the draft, so references to them should be cross-references.

## SuggestedRemedy

Change "22.2.2.4" to be a cross-reference in:  
148.4.4.1.1 (page 178, line 34)  
148.4.4.1.2 (page 178, line 49)  
Change "22.2.2.8" to be a cross-reference in:  
148.4.4.1.1 (page 178, line 37)  
148.4.4.1.3 (page 179, line 8)

Proposed Response Response Status **W**  
PROPOSED ACCEPT.

CI **148** SC **148.4.4.1.1** P **178** L **43** # **415**  
Jones, Chad Cisco

Comment Type **ER** Comment Status **D** EZ

"PHY specifications are free to map the BEACON request to any suitable line coding as long as the requirement defined herein are met."  
a requirement IS met. REQUIREMENTS are met.

## SuggestedRemedy

Make requirement plural.  
Also, make the same change in 148.4.4.1.2 on page 179, line 1.

Proposed Response Response Status **W**  
PROPOSED ACCEPT.

CI **148** SC **148.4.4.1.1** P **178** L **34** # **601**  
KIM, YONG NIO

Comment Type **ER** Comment Status **D** EDITORIAL

MII == Media Independent Interface.

## SuggestedRemedy

Replace all "MII interface" with "MII" (preferred) or "MI Interface" (not preferred)

Proposed Response Response Status **W**  
PROPOSED ACCEPT IN PRINCIPLE.  
Replace all occurrences of "MII interface" with "MII"

CI **148** SC **148.4.4.1.2** P **178** L **51** # **603**  
KIM, YONG NIO

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

"A Commit request shall not.. PHY. RX\_DV.." has two problems. What PHY is "the PHY", and how does the PHY know not to assert RX\_DV signal in accordance to CL148 state diagram.

## SuggestedRemedy

Please fix it. If fixable.

Proposed Response Response Status **W**  
PROPOSED ACCEPT IN PRINCIPLE.

As stated in the same subclause "PHY specifications are free to map the COMMIT request to any suitable line coding as long as the requirement defined herein are met."

The purpose of this sentence is to ensure that whatever mapping is chosen in specific PHY clauses for the COMMIT request, this one is not interpreted as normal data (asserting RX\_DV).

Suggested resolution should clarify this better.

Proposed resolution in Clause\_148\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes.

NOTE: CRS assertion is not to be specified here (it's implicit in CRS definition). See resolution of #649

CI **148** SC **148.4.4.1.2** P **178** L **51** # **602**  
KIM, YONG NIO

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

"thus request, the PHY shall asset the CRS..." has two problems. What PHY is "the PHY", and how does PHY assert CRS in accordance to CL148 state diagram

## SuggestedRemedy

Please fix it. If fixable.

Proposed Response Response Status **W**  
PROPOSED ACCEPT IN PRINCIPLE.  
Solved by #603 and #649

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 148 SC 148.4.4.1.3 P 179 L 6 # 508  
Jones, Peter Cisco

Comment Type TR Comment Status D PLCA

What is TO\_TIMER skew, and why should I care? reword to explain what's really happening

## SuggestedRemedy

make suggested change

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

ERI is going to be removed as a resolution to #649

CI 148 SC 148.4.4.1.3 P 179 L 7 # 341  
Yseboodt, Lennart Signify

Comment Type ER Comment Status X PLCA

"In order to minimize TO\_TIMER skew across the multidrop network and improve PLCA performance, a PHY may optionally notify the RS of an early receive condition."

'may optionally' is equivalent to 'may'.

## SuggestedRemedy

"In order to minimize TO\_TIMER skew across the multidrop network and improve PLCA performance, a PHY may notify the RS of an early receive condition."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

ERI is going to be removed as a resolution to #649

CI 148 SC 148.4.4.1.3 P 179 L 8 # 291  
KIM, YONG NIO

Comment Type TR Comment Status D PLCA

The reference 22.2.2.8 is part of this draft, so should not be in green font. 22.2.2.8 itself does not clearly describe how, in combination with 148.4.4.1.3, performs early receive indication.

## SuggestedRemedy

Please fix font and clarify in CL22 or here.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

ERI is going to be removed as a resolution to #649

CI 148 SC 148.4.4.2.3 P 179 L 39 # 342  
Yseboodt, Lennart Signify

Comment Type ER Comment Status D PLCA

"Since the PHY may optionally provide early receive indication by the means of CRS and COL MII signals, the plca\_crs variable shall be set accordingly as follows:"

a) 'may optionally' is equivalent to 'may'

b) is there a conditional element imparted on the requirement ? I can't deduce this.

## SuggestedRemedy

Change to:

"The PHY may optionally provide early receive indication by the means of CRS and COL MII signals.

The plca\_crs variable shall be set as follows: ... "

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

ERI is going to be removed as a resolution to #649

CI 148 SC 148.4.5.1 P 180 L 8 # 416  
Jones, Chad Cisco

Comment Type ER Comment Status D EDITORIAL

"The PLCA Control function shall conform to the PLCA Control state diagram in Figure 148-4 and Figure 148-5 and associated state variables, functions, timers and messages."

delete "and Figure 148-5"

combine Figures 148-4 and 148-5 into one figure.

Search for other instances of "Figure 148-5" and delete or correct as needed.

## SuggestedRemedy

delete "and Figure 148-5" page 180 line 8

combine Figures 148-4 and 148-5 into one figure (page 181-183).

Rename "Figure 148-5" to "Figure 148-4 (continued)"

Search for other instances of "Figure 148-5" and delete or correct as needed.

Proposed Response Response Status W

PROPOSED ACCEPT.

NOTE FOR EDITORS: resolve this comment after all others

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **148** SC **148.4.5.1** P **180** L **11** # **570**  
Laubach, Mark Broadcom

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

"PLCA control variables". Where are these? Suggest xrefing to the appropriate subclause, e.g. 148.4.5.2. The more significant problem is that there is I can't find the term "default" and/or "default value" for any variable in 148.4.5.2. Please indicate in 148.4.5.2 what the default value is for each variable or consider providing a table somewhere appropriate with specific variables and their corresponding appropriate default value to make this statement correct.

## SuggestedRemedy

Add the appropriate default value for each variable in 148.4.5.2 as referred to by the paragraph at line 11.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

This text is not supposed to be normative, but rather a description of the normative state diagram in Fig 148-4 and 148-5.

Proposed resolution in Clause\_148\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes.

CI **148** SC **148.4.5.1** P **180** L **14** # **509**  
Jones, Peter Cisco

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

Need to add some text stating that local\_nodeID must be set before setting plca\_en = O

## SuggestedRemedy

make suggested change

Proposed Response Response Status **W**

PROPOSED REJECT.

Even if this is a very reasonable thing to do, making it normative would be vexatious.

In fact, this would prevent a user to assign IDs using an high level protocol while starting with PLCA enabled and all PHYs having the same local\_nodeID.

As shown in [http://www.ieee802.org/3/cg/public/adhoc/beruto\\_3cg\\_mixing\\_PLCA\\_with\\_non\\_PLCA\\_enabled\\_nodes.pdf](http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_mixing_PLCA_with_non_PLCA_enabled_nodes.pdf), a network featuring a mix of PLCA-enabled and non PLCA-enabled nodes (including the case of nodes having the same ID), behaves just like a plain CSMA/CD network.

CI **148** SC **148.4.5.1** P **180** L **23** # **511**  
Jones, Peter Cisco

Comment Type **ER** Comment Status **D** EZ

Why is this equation buried in text

## SuggestedRemedy

Fix.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

Separate equation from text and add reference to it in the original text instead.

CI **148** SC **148.4.5.1** P **180** L **27** # **510**  
Jones, Peter Cisco

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

A lot of the rest of the text in this clause feels like a text version of the state machine. Remove, or make easily readable

## SuggestedRemedy

make suggested change

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

Proposed resolution in Clause\_148\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes.

Additionally:

find and replace all occurrences of "MAX\_ID" with "plca\_max\_id" in C148

CI **148** SC **148.4.5.1** P **180** L **36** # **136**  
Anslow, Pete Ciena

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

in "a BEACON or a valid packet (see 1.4.312)", the external reference "1.4.312" is the definition for "local device", which does not appear to be appropriate.

## SuggestedRemedy

Change this reference to point to the intended definition.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

The entire paragraph has been changed as part of the resolution of comment #649



## Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **148** SC **148.4.5.1** P **180** L **43** # **417**  
Jones, Chad Cisco

Comment Type **ER** Comment Status **D** EZ

fix the English: "At this point, if the plca\_crs variable is set to TRUE, the control state machine goes to RECEIVE state \*for actually receiving\* the packet"

### SuggestedRemedy

CHANGE TO: ""At this point, if the plca\_crs variable is set to TRUE, the control state machine goes to RECEIVE state \*to receive\* the packet"

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.  
Solved by #510

CI **148** SC **148.4.5.1** P **181** L **5** # **122**  
Anslow, Pete Ciena

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

"Table 22-1" should be a cross-reference.

### SuggestedRemedy

Make "Table 22-1" a cross-reference.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.  
Solved by #510

CI **148** SC **148.4.5.1** P **181** L **20** # **512**  
Jones, Peter Cisco

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

Figure 148-4-PLCA Control state diagram (1 of 2) - Need to check local\_nodeID greater than MAX\_ID - plca\_en = ON \* local\_nodeID != 0 \* local\_nodeID < MAX\_ID

### SuggestedRemedy

make suggested change

Proposed Response Response Status **W**

PROPOSED REJECT.  
MAX\_ID is not defined for nodes with local\_nodeID != 0. Besides it's a variable, not a constant.

The reason for this is to have MAX\_ID configured only on the PLCA coordinator node (i.e. the one with local\_nodeID = 0) and just don't care on slave nodes, thus minimizing the required system configuration. State diagrams are also designed to take this into account.

CI **148** SC **148.4.5.1** P **181** L **30** # **520**  
Beruto, Piergiorgio Canova Tech Srl

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

Exit condition from RECOVER state in figure 148-4 is potentially ambiguous with respect to "plca\_eri" expression

### SuggestedRemedy

In figure 148-4 append "" plca\_eri = FALSE" condition to the transition from state RECOVER to SEND\_BEACON.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.  
plca\_eri has been changed by #649

Proposed resolution in Clause\_148\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 148 SC 148.4.5.1 P 181 L 50 # 604  
KIM, YONG NIO

Comment Type TR Comment Status D ig Ticket Item PLCA\_SCOPE

PLCA Control state diagram (Fig 148-5) and related text seems to describe Token bus-like medium access control function (without details on how the token (BEACON) is initialized, how duplicate tokens are handled (duplicate nodeID=0), how lost token (null nodeID=0) is handled). This is NOT appropriate function for RS (CL22) layer that conveys (translates) signals between PLS and MII

## SuggestedRemedy

Move CL148 function so CL4 MAC Clause where it belongs. Make appropriate changes to CRD and objectives list, if deemed needed.

Proposed Response Response Status W

PROPOSED REJECT.  
PLCA is not a token bus-like medium access control function. This has been extensively discussed within the TF.

There is no such concept of "token" which is supposed to be transmitted by the current owner to the next one. In "token" like busses there is also no concept of coordinator (aka master).

The "Transmit Opportunity" concept is a totally different one and does not change the way CSMA/CD works. In fact, as shown in [http://www.ieee802.org/3/cg/public/adhoc/beruto\\_3cg\\_mixing\\_PLCA\\_with\\_non\\_PLCA\\_enabled\\_nodes.pdf](http://www.ieee802.org/3/cg/public/adhoc/beruto_3cg_mixing_PLCA_with_non_PLCA_enabled_nodes.pdf), PLCA-enabled nodes interoperate correctly with non PLCA-enabled nodes behaving just like plain CSMA/CD.

Missing PLCA coordinator is a management problem (how to assign IDs) which is out of scope for this project. As an example, in engineered networks this one is likely to be assigned by static configuration.

Duplicate IDs problem is also taken into account in referenced presentation, yielding standard CSMA/CD behavior. Additionally, this condition is reported to the management entity in the form of a counter of physical collisions (which are not possible when all nodes are PLCA-enabled).

CI 148 SC 148.4.5.1 P 182 L 1 # 139  
Anslow, Pete Ciena

Comment Type E Comment Status D EZ

Blank page

## SuggestedRemedy

Remove it.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 148 SC 148.4.5.1 P 183 L 11 # 557  
Beruto, Piergiorgio Canova Tech Srl

Comment Type E Comment Status D PLCA

Exit conditions from WAIT\_TO state in Figure 148-5 are potentially ambiguous with respect to "rx\_cmd = BEACON" expression

## SuggestedRemedy

In figure 148-5 append "\*" rx\_cmd ? BEACON" condition to the transitions from state WAIT\_TO to: COMMIT, YIELD and NEXT\_TX OPPORTUNITY states

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
Solved by #649

CI 148 SC 148.4.5.1 P 183 L 20 # 550  
Beruto, Piergiorgio Canova Tech Srl

Comment Type T Comment Status D PLCA

[MASTER][PLCA\_XWORK] PLCA is meant to interwork with non PLCA enabled nodes on the same mixing segment. Fixes are needed to fully cover this case.

## SuggestedRemedy

In figure 148-5 Add transition from "YIELD" to "RECEIVE" state with condition "plca\_eri = TRUE \* !TO\_TIMER done". Suggestion for editor: move YIELD state to the left to avoid crossings.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
plca\_eri has been changed by #649

Proposed resolution in Clause\_148\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes.

## Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **148** SC **148.4.5.1** P **183** L **20** # **551**  
 Beruto, Piergiorgio Canova Tech Srl

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

[PLCA\_XWORK] PLCA is meant to interwork with non PLCA enabled nodes on the same mixing segment. Fixes are needed to fully cover this case.

### SuggestedRemedy

In figure 148-5 Add transition from "COMMIT" to "NEXT\_TX\_OPPORTUNITY" state with condition "TX\_EN = FALSE \* packetPending = FALSE".  
 Add "committed <= FALSE" action in "NEXT\_TX\_OPPORTUNITY" state box

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.  
 plca\_eri has been changed by #649

Proposed resolution in Clause\_148\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes.

CI **148** SC **148.4.5.1** P **183** L **23** # **558**  
 Beruto, Piergiorgio Canova Tech Srl

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

Exit conditions from EARLY\_RECEIVE state in Figure 148-5 are potentially ambiguous with respect to "RECV\_TIMER done" and "plca\_crs" expressions

### SuggestedRemedy

In figure 148-5 append "\*" !RECV\_TIMER done" condition to the transition from state EARLY\_RECEIVE to RECEIVE state. Prepend "plca\_crs = FALSE \*" to the transitions from EARLY\_RECEIVE state to: B and C connectors.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.  
 plca\_eri has been changed by #649

Proposed resolution in Clause\_148\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes.

CI **148** SC **148.4.5.2** P **184** L **45** # **513**  
 Jones, Peter Cisco

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

Aren't the "When MDIO is present" and "When MDIO is not present" cases the same from the 802.3 point of view? Similar comment in lots of places where the text says "When MDIO is not present <snip> can be provided by equivalent means"

### SuggestedRemedy

remove text discussing operation when MDIO is not present.

Proposed Response Response Status **W**

PROPOSED REJECT.  
 MDIO is optional. For this reason it's necessary to specify how signals maps when MDIO is implemented and when it's not. This avoids ambiguities between signals that are just undefined when MDIO is not present from the ones that have to be managed anyway, even if it's cumbersome.

CI **148** SC **148.4.5.2** P **184** L **52** # **532**  
 Beruto, Piergiorgio Canova Tech Srl

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

[MAX\_ID] MAX\_ID description is not consistent to its usage in Clause 148

### SuggestedRemedy

Replace "Indicates the maximum number of PHYs that can join the multidrop network" with "Indicates the maximum node ID getting a transmit opportunity before the node with local\_nodeID = 0 generates a new BEACON"

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **148** SC **148.4.5.3** P **185** L **3** # **516**  
 Jones, Peter Cisco

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

Check MAX\_ID range. Both 0 and 255 don't make sense. Range should be 1 - 254

### SuggestedRemedy

make suggested change

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.  
 Solved by #527

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **148** SC **148.4.5.4** P **185** L **35** # **515**  
 Jones, Peter Cisco  
 Comment Type **ER** Comment Status **D** EZ  
 Change "Timer" to "The timer"  
 SuggestedRemedy  
 make suggested change  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

CI **148** SC **148.4.5.4** P **185** L **35** # **514**  
 Jones, Peter Cisco  
 Comment Type **TR** Comment Status **D** EZ  
 Change "enough to allow any PHY that meets its own transmit opportunity to have the first nibble " to "enough to allow the transmitting PHY to have the first nibble "  
 SuggestedRemedy  
 make suggested change  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Fix typo in resolution.

Change "enough to allow any PHY that meets its own transmit opportunity to have the first nibble " to "enough to allow the transmitting PHY to have the first nibble "

CI **148** SC **148.4.5.4** P **185** L **41** # **140**  
 Anslow, Pete Ciena  
 Comment Type **E** Comment Status **D** EZ  
 According to the rules set out in:  
[http://www.ieee802.org/3/WG\\_tools/editorial/requirements/words.html#numbers](http://www.ieee802.org/3/WG_tools/editorial/requirements/words.html#numbers)  
 "In text, where this improves clarity, follow the IEEE Editorial Style Manual: Use spaces instead of commas between numbers in tens or hundreds of thousands (e.g., 62 000, 100 000, but 4000)."  
 SuggestedRemedy  
 In the definition of TO\_TIMER, change "65535" to "65 535"  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

CI **148** SC **148.4.5.4** P **185** L **45** # **529**  
 Beruto, Piergiorgio Canova Tech Srl  
 Comment Type **T** Comment Status **D** PLCA  
 [MAX\_ID] MAX\_ID is not consistent to its intended usage.  
 SuggestedRemedy  
 Replace "TO\_TIMER \* MAX\_ID" with "TO\_TIMER \* (MAX\_ID + 1)"  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

CI **148** SC **148.4.6.1** P **186** L **1** # **418**  
 Jones, Chad Cisco  
 Comment Type **ER** Comment Status **D** EZ  
 another State Diagram split across two figures.  
 "The PLCA Data function shall conform to the PLCA Data state diagram in Figure 148-6 and Figure 148-7 and associated state variables, functions, timers and messages."  
 SuggestedRemedy  
 delete "and Figure 148-7"  
 combine Figures 148-6 and 148-7 into one figure.  
 Rename "Figure 148-7" to "Figure 148-6 (continued)"  
 Search for other instances of "Figure 148-7" and delete or correct as needed.  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.  
 NOTE FOR EDITORS: resolve this comment after any other

CI **148** SC **148.4.6.1** P **186** L **26** # **530**  
 Beruto, Piergiorgio Canova Tech Srl  
 Comment Type **T** Comment Status **D** PLCA  
 [MAX\_ID] MAX\_ID is not consistent to its intended usage.  
 SuggestedRemedy  
 Replace "TO\_TIMER \* MAX\_ID" with "TO\_TIMER \* (MAX\_ID + 1)"  
 Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI **148** SC **148.4.6.1** P **186** L **26** # **141**  
 Anslow, Pete Ciena

Comment Type **E** Comment Status **D** EZ  
 Incorrect multiply symbol used

SuggestedRemedy  
 replace with correct multiply symbol (Ctrl-q 0)

Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

CI **148** SC **148.4.6.1** P **186** L **41** # **419**  
 Jones, Chad Cisco

Comment Type **ER** Comment Status **D** EZ  
 fixing the English: "... to prevent the MAC \*to make\* new transmit attempts until PLCA ."

SuggestedRemedy  
 CHANGE TO: "... to prevent the MAC \*from making\* new transmit attempts until PLCA ."

Proposed Response Response Status **W**  
 PROPOSED ACCEPT.

CI **148** SC **148.4.6.1** P **187** L **25** # **522**  
 Beruto, Piergiorgio Canova Tech Srl

Comment Type **E** Comment Status **D** PLCA  
 Exit conditions from state "IDLE" in figure 148-6 are potentially ambiguous

SuggestedRemedy  
 In figure 148-6 append condition "\*" plca\_crs = FALSE" to the transition from "IDLE" to "HOLD" state

Proposed Response Response Status **W**  
 PROPOSED ACCEPT IN PRINCIPLE.  
 plca\_crs has been changed by #649

Proposed resolution in Clause\_148\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes.

CI **148** SC **148.4.6.1** P **187** L **25** # **523**  
 Beruto, Piergiorgio Canova Tech Srl

Comment Type **E** Comment Status **D** PLCA  
 Exit conditions from state "RECEIVE" in figure 148-6 are potentially ambiguous

SuggestedRemedy  
 In figure 148-6 append condition "\*" plca\_txen = FALSE" to the transition from "RECEIVE" to "IDLE" state

Proposed Response Response Status **W**  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Proposed resolution in Clause\_148\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes.

CI **148** SC **148.4.6.1** P **187** L **33** # **613**  
 Baggett, Tim Microchip

Comment Type **T** Comment Status **D** PLCA  
 When a PLCA-enabled PHY\_A transmits the ESD end-of-frame, it will deassert CRS to the MAC. However, if another PLCA-enabled PHY\_B transmits a SYNC Commit in the very next TO, PHY\_A will reassert CRS. The result is that PHY\_A will deassert CRS for less than the InterPacketGap1 period of 64 bits. If the PHY\_A MAC has more frames to transmit, it will not attempt transmission because the short InterPacketGap. This may cause the PHY\_A MAC to possibly miss its next TO.

SuggestedRemedy  
 The PHY must not deassert CRS for less than the InterPacketGap1 period of 64 bits. This will allow every PHY MAC the ability to attempt transmission in any TO, receive a COL, and be prepared to transmit once its TO finally arrives. The result is a much more efficient transmission of packets across the PLCA PHYs.

Proposed Response Response Status **W**  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Proposed resolution in Clause\_148\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes.

# Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

CI 148 SC 148.4.6.1 P 187 L 45 # 521  
Beruto, Piergiorgio Canova Tech Srl

Comment Type E Comment Status D PLCA

Exit conditions from HOLD state in figure 148-6 are potentially ambiguous with respect to "RECV\_TIMER" expression

## SuggestedRemedy

In figure 148-6 append "" RECV\_TIMER not done" in all the transitions from HOLD state, except the connection between the HOLD state and the "A" off-page connector.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Proposed resolution in Clause\_148\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes.

CI 148 SC 148.4.6.1 P 187 L 54 # 605  
KIM, YONG NIO

Comment Type TR Comment Status D t Item HALF\_DUPLEX\_802.1

PLCA Data state diagram (Fig 148-6) introduces a new behavior WRT media loopback when transmitting. Prior to CL148, CL4 half-duplex MAC reflects all TX packets back to RX (reflected by the half-duplex medium). CL4 full-duplex MAC does not reflect any TX back to RX. There is recognized inconsistency in 802.1 MAC Services definition (e.g. thought experiment -- how does broadcast frame transmitted by a bridge to a half-duplex medium behave as per std, and how does a system actually behave)? This statemachine introduces a new behavior for the half-duplex MAC, where the TX is not reflected back to RX. An EXISTING system that is not aware of 802.3cg behavior would IGNORE (with half-duplex MAC) RX when it is also TX, when in fact RX is independant transmission that must be received (otherwise packet was transmitted to the network and lost silently by being ignored (reflected)).

## SuggestedRemedy

While the 802.1 MAC services issues has nothing to do with 802.3cg scope, the 802 and 802.3 compatibility is IN scope, because by introducing a different behavior. Existing systems (MACs and Bridges) would potentially not process any RX that is coincidental with its own TX. Please fix it, if fixible. 802.1 MAC Services maintenance change may be required be reviewed together with this issue.

Proposed Response Response Status W

PROPOSED REJECT.

This potential issue is totally unrelated to PLCA, it is a general argument concerning 802.1 and half-duplex MAC.

PLCA does not introduce new behaviors, it does not change Clause 4. Besides there is no reference text specifying whether a transmitted packet shall or shall not be suppressed by the PHY when operating in half-duplex mode.

Also, the referenced 802.1 MAC model clearly defines that reflected frames are detected by "bit by bit comparison" with the original transmitted frame, then discarded.

Simply ignoring reflected RX "assuming" the TX is reflected is not an acceptable implementation of the above model.

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CI **148** SC **148.4.6.1** P **188** L **22** # **552**  
Beruto, Piergiorgio Canova Tech Srl

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

[PLCA\_XWORK] PLCA is meant to interwork with non PLCA enabled nodes on the same mixing segment. Fixes are needed to fully cover this case.

## SuggestedRemedy

In figure 148-7 Add transition from "WAIT\_MAC" to "C" off-page connector with condition "plca\_txen = FALSE \* COMMIT\_TIMER done".  
Add "restart COMMIT\_TIMER" action in "WAIT\_MAC" state box

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.  
Proposed resolution in Clause\_148\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes.

CI **148** SC **148.4.6.4** P **189** L **45** # **553**  
Beruto, Piergiorgio Canova Tech Srl

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

[PLCA\_XWORK] PLCA is meant to interwork with non PLCA enabled nodes on the same mixing segment. Fixes are needed to fully cover this case.

## SuggestedRemedy

Add description of COMMIT\_TIMER:  
Defines the maximum time the PLCA Data state machine is allowed to stay in WAIT\_MAC state. Duration: 192 bit times

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.  
Proposed resolution in Clause\_148\_r2p0\_resolution.pdf. Changes are marked with #comment number in the right boxes.

CI **148** SC **148.5.2.2** P **190** L **35** # **123**  
Anslow, Pete Ciena

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

"IEEE Std 802.3xx-201x" should be "IEEE Std 802.3cg-201x" in two places.

## SuggestedRemedy

Change "IEEE Std 802.3xx-201x" to "IEEE Std 802.3cg-201x" in two places.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **148** SC **148.5.3** P **191** L **6** # **125**  
Anslow, Pete Ciena

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

In the Subclause column of the table in 148.5.3 "22" and "146" should be cross-references. Likewise, in the Value/Comment column of the table in 148.5.4.1 and the table in 148.5.4.4, "Clause 22" should be cross-references.

## SuggestedRemedy

In the Subclause column of the table in 148.5.3 make "22" and "146" cross-references. In the Value/Comment column of the table in 148.5.4.1 and the table in 148.5.4.4, make "Clause 22" a cross-reference.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **148** SC **148.5.3** P **191** L **6** # **124**  
Anslow, Pete Ciena

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

The convention for PICS items is that when another item depends on whether or not this item is supported, its name is preceded by a "\*\*".

## SuggestedRemedy

In the table in 148.5.3, change:  
"MII" to "\*\*MII"  
"TSSI" to "\*\*TSSI"

Proposed Response Response Status **W**

PROPOSED ACCEPT.

CI **148** SC **148.5.4.3** P **192** L **26** # **126**  
Anslow, Pete Ciena

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

In the Value/Comment column of the table in 148.5.4.3, "See 148-1" should be "See Equation (148-1)" and "See 148-2" should be "See Equation (148-2)"

## SuggestedRemedy

In the Value/Comment column of the table in 148.5.4.3, change "See 148-1" to "See Equation (148-1)" and change "See 148-2" to "See Equation (148-2)" by changing the cross-reference format to "EquationNumber" in both cases.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced P

|                                                            |                   |                 |      |       |
|------------------------------------------------------------|-------------------|-----------------|------|-------|
| CI 148                                                     | SC 148.5.4.4      | P 192           | L 50 | # 531 |
| Beruto, Piergiorgio                                        |                   | Canova Tech Srl |      |       |
| Comment Type                                               | T                 | Comment Status  | D    | PLCA  |
| [MAX_ID] MAX_ID is not consistent to its intended usage.   |                   |                 |      |       |
| SuggestedRemedy                                            |                   |                 |      |       |
| Replace "TO_TIMER * MAX_ID" with "TO_TIMER * (MAX_ID + 1)" |                   |                 |      |       |
| Proposed Response                                          | Response Status W |                 |      |       |
| PROPOSED ACCEPT.                                           |                   |                 |      |       |