Cl **01** *SC* *P* **1-1** *L* **49** # **84**

Geoff Thompson

Comment Type **E** *Comment Status* **A**

The footnote on the bottom of 1-1 needs a little work.

SuggestedRemedy

a) The address for MathWorks needs the zip code "01760-1500" and a "USA"

b) There should not be a line break in the middle of the URL. Add a UC-CR and TAB in front of "URL"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **01** *SC* **1.3** *P* **1** *L* **8** # **83**

Geoff Thompson

Comment Type **E** *Comment Status* **A**

It looks like there is a style problem with the new reference entry.

SuggestedRemedy

Check the text style for this new text and match it to the rest of the normal text in 1.3

Proposed Response *Response Status* **C**

ACCEPT.

Cl **01** *SC* **1.3** *P* **1-1** *L* **3** # **82**

Geoff Thompson

Comment Type **E** *Comment Status* **A**

There is now more than one normative reference being added.

SuggestedRemedy

On line 3 of 1-1 change "reference" to "references"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **01** *SC* **1.4** *P* **3** *L* **8** # **1**

John Montague

Comment Type **E** *Comment Status* **R**

"full-duplex" is redundant; "duplex" is the proper terminology.

SuggestedRemedy

SuggestedRemedy = delete "full-" (see also page 40-118 line 23 subclause 40.15.1, and page 40-119 line 3 Table 40-15 title, and page 40-118 line 21 in *FDX entry in uncaptioned table in subclause 40.16.2, and "full " on page 40-118 line 11 subclause 40.15)

Proposed Response *Response Status* **C**

REJECT.
Full-duplex is consistant with 802.3 terminology as defined in 1.4.

Cl **28** *SC* *P* **28-1** *L* **46** # **26**

Brad Booth

Comment Type **E** *Comment Status* **A**

The way that PMA_LINKPULSE.request is worded, one may assume that this primitive is now required in all devices that use Clause 28 auto-negotiation. This is not the case, and the wording needs to reflect this.

SuggestedRemedy

Change the paragraph to read:
"The generation of this primitive is optional. If this primitive is generated by Auto-Negotiation, it should indicate a valid Link Pulse, as transmitted in compliance with Figure 14-12, has been received."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **28** *SC* **28.4.4.7** *P* **28-2** *L* **35** # **27**

Brad Booth

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

Description for the PICS need to be cleaned up.

SuggestedRemedy

Change Feature to be "PMA_LINKPULSE.request(linkpulse) values"
Change Status to be "O"
Add "No[]" to Support
Change Value/Comment to be "linkpulse set to TRUE or FALSE"

Proposed Response *Response Status* **W**

Accept 27-32 changes to PICS associated with Clause 28 to harmonize style

recirculate

Cl **28**   *SC* **28.4.4.7**   *P* **28-2**   *L* **37**   **#** **28**

Brad Booth

Comment Type   **E**   *Comment Status*   **A**

Description for the PICS need to be cleaned up.

SuggestedRemedy

Change Feature to be "Effect of linkpulse=FALSE"
Change Status to be "O"
Add "No[]" to Support
Change Value/Comment to be "Indication to the PMA that the Auto-Negotiation Receive state machine has performed a state transition"

Proposed Response   *Response Status*   **C**

ACCEPT. See response to Comment 7

Cl **28**   *SC* **28.4.4.7**   *P* **28-2**   *L* **41**   **#** **29**

Brad Booth

Comment Type   **E**   *Comment Status*   **A**

Description for the PICS need to be cleaned up.

SuggestedRemedy

Change Feature to be "Effect of linkpulse=TRUE"
Change Status to be "O"
Add "No[]" to Support
Change Value/Comment to be "Indication to the PMA that a valid Link Pulse has been received"

Proposed Response   *Response Status*   **C**

ACCEPT. See response to Comment 7

Cl **28**   *SC* **28.4.4.7**   *P* **28-3**   *L* **12**   **#** **32**

Brad Booth

Comment Type   **E**   *Comment Status*   **A**

Description for the PICS need to be cleaned up.

SuggestedRemedy

Change Feature to be "PMA_LINKPULSE.request(linkpulse) effect of receipt"
Change Status to be "O"
Add "No[]" to Support
Change Value/Comment to be "Governed by the receiving technology-dependent PMA function"

Proposed Response   *Response Status*   **C**

ACCEPT. See response to Comment 7

Cl **28**   *SC* **28.4.4.7**   *P* **28-3**   *L* **3**   **#** **30**

Brad Booth

Comment Type   **E**   *Comment Status*   **A**

Description for the PICS need to be cleaned up.

SuggestedRemedy

Change Feature to be "PMA_LINKPULSE.request(linkpulse) generation"
Change Status to be "O"
Add "No[]" to Support
Change Value/Comment to be "Auto-Negotiation function responsibility in accordance with the state diagram of Figure 28-15"

Proposed Response   *Response Status*   **C**

ACCEPT. See response to Comment 7

Cl **28**   *SC* **28.4.4.7**   *P* **28-3**   *L* **7**   **#** **31**

Brad Booth

Comment Type   **E**   *Comment Status*   **A**

Description for the PICS need to be cleaned up.

SuggestedRemedy

Change Feature to be "PMA_LINKPULSE.request(linkpulse) default upon power-on, reset or release from power-down"
Change Status to be "O"
Add "No[]" to Support
Change Value/Comment to be "linkpulse=FALSE state to all technology-dependent PMAs"

Proposed Response   *Response Status*   **C**

ACCEPT. See response to Comment 7

Cl **40**   *SC* **40.1.5**   *P* **40-7**   *L* **15**   **#** **16**

Rich Seifert

Comment Type   **E**   *Comment Status*   **A**

SuggestedRemedy

Change "fro" to "from".

Proposed Response   *Response Status*   **C**

ACCEPT.

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Subclause, page, line

RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

Page 2 of 19

Cl **40**   *SC* **40.1.5**

Cl **40**   *SC* **40.12**   *P* **40-95 to 119**   *L*   # **51**

Brad Booth

Comment Type   **E**   *Comment Status*   **A**

"Yes[]" not required in the Support column if the feature Status is "M"

SuggestedRemedy

Remove redundant "Yes[]" from Support column

Proposed Response   *Response Status*   **C**

ACCEPT.

Cl **40**   *SC* **40.12.3**   *P* **40-97**   *L* **6**   # **52**

Brad Booth

Comment Type   **E**   *Comment Status*   **R**

PICS entry PCT1 should be cleaned up.

SuggestedRemedy

Change Feature to be "Data transmission enabling state diagram"
Change Value/Comment to be "Meets the requirements of Figure 40-8"

Proposed Response   *Response Status*   **C**

REJECT. The general change in PICs formatting proposed by the commenter was discussed by the task force and the task force voted to not make the proposed changes at this time because the changes were viewed too extensive for this stage of the review process. It was noted that the format currently used is technically correct and that there are pros and cons to both the current "verbose" approach and the proposed "terse" approach. It was recommended that the changes proposed by the commenter would best be implemented through a maintenance request.

The 802.3ab editor agreed to work with the commenter to prepare this maintenance request for submission after 802.3ab is approved by the Santdards Board and is accessible for maintenance.

Cl **40**   *SC* **40.12.4**   *P* **40-97**   *L*   # **54**

Brad Booth

Comment Type   **E**   *Comment Status*   **R**

PICS entry PCT2 should be cleaned up.

SuggestedRemedy

Change Feature to be "Transmit state diagram"
Change Value/Comment to be "Meets the requirements of Figure 40-9"

Proposed Response   *Response Status*   **C**

REJECT. The general change in PICs formatting proposed by the commenter was discussed by the task force and the task force voted to not make the proposed changes at this time because the changes were viewed too extensive for this stage of the review process. It was noted that the format currently used is technically correct and that there are pros and cons to both the current "verbose" approach and the proposed "terse" approach. It was recommended that the changes proposed by the commenter would best be implemented through a maintenance request.

The 802.3ab editor agreed to work with the commenter to prepare this maintenance request for submission after 802.3ab is approved by the Santdards Board and is accessible for maintenance.

Cl **40**   *SC* **40.12.4**   *P* **40-98**   *L*   # **59**

Brad Booth

Comment Type   **E**   *Comment Status*   **R**

Clean up PICS PCT6.

SuggestedRemedy

Change Feature to be "Invalid scrambler value"
Change Value/Comment to be "Never initialized to all zeroes"

Proposed Response   *Response Status*   **C**

REJECT. The general change in PICs formatting proposed by the commenter was discussed by the task force and the task force voted to not make the proposed changes at this time because the changes were viewed too extensive for this stage of the review process. It was noted that the format currently used is technically correct and that there are pros and cons to both the current "verbose" approach and the proposed "terse" approach. It was recommended that the changes proposed by the commenter would best be implemented through a maintenance request.

The 802.3ab editor agreed to work with the commenter to prepare this maintenance request for submission after 802.3ab is approved by the Santdards Board and is accessible for maintenance.

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Subclause, page, line   Page 3 of 19

RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *Cl* **40**   *SC* **40.12.4**

Cl **40**   *SC* **40.12.4**   *P* **40-98**   *L*   **#** **57**
Brad Booth

Comment Type   **E**   *Comment Status* **R**
    Clean up PICS PCT4.

SuggestedRemedy
    Change Feature to be "Master side-stream scrambler"
    Change Value/Comment to be "Polynomial specified in 40.3.1.3.1"

Proposed Response   *Response Status* **C**
    REJECT. The general change in PICs formatting proposed by the commenter was discussed
    by the task force and the task force voted to not make the proposed changes at this time
    because the changes were viewed too extensive for this stage of the review process. It was
    noted that the format currently used is technically correct and that there are pros and cons to
    both the current "verbose" approach and the proposed "terse" approach. It was recommended
    that the changes proposed by the commenter would best be implemented through a
    maintenance request.

    The 802.3ab editor agreed to work with the commenter to prepare this maintenance request for
    submission after 802.3ab is approved by the Santdards Board and is accessible for
    maintenance.

Cl **40**   *SC* **40.12.4**   *P* **40-98**   *L*   **#** **58**
Brad Booth

Comment Type   **E**   *Comment Status* **R**
    Clean up PICS PCT5.

SuggestedRemedy
    Change Feature to be "Slave side-stream scrambler"
    Change Value/Comment to be "Polynomial specified in 40.3.1.3.1"

Proposed Response   *Response Status* **C**
    REJECT. The general change in PICs formatting proposed by the commenter was discussed
    by the task force and the task force voted to not make the proposed changes at this time
    because the changes were viewed too extensive for this stage of the review process. It was
    noted that the format currently used is technically correct and that there are pros and cons to
    both the current "verbose" approach and the proposed "terse" approach. It was recommended
    that the changes proposed by the commenter would best be implemented through a
    maintenance request.

    The 802.3ab editor agreed to work with the commenter to prepare this maintenance request for
    submission after 802.3ab is approved by the Santdards Board and is accessible for
    maintenance.

Cl **40**   *SC* **40.12.4**   *P* **40-98**   *L* **2**   **#** **60**
Brad Booth

Comment Type   **E**   *Comment Status* **A**
    Missing a heading for the PCS transmit PICS.

SuggestedRemedy
    Change 40.12.4.1 on page 40-100 to 40.12.4.2.
    Add heading "40.12.4.1 PCS transmit functions"

Proposed Response   *Response Status* **C**
    ACCEPT.

Cl **40**   *SC* **40.12.4.1**   *P* **40-100**   *L* **31**   **#** **71**
Brad Booth

Comment Type   **E**   *Comment Status* **R**
    PICS PCR1 description requires clean-up.

SuggestedRemedy
    Change Feature to be "Receive state diagram"
    Change Value/Comment to be "Meets requirements of Figures 40-10a and 40-10b."

Proposed Response   *Response Status* **C**
    REJECT. The general change in PICs formatting proposed by the commenter was discussed
    by the task force and the task force voted to not make the proposed changes at this time
    because the changes were viewed too extensive for this stage of the review process. It was
    noted that the format currently used is technically correct and that there are pros and cons to
    both the current "verbose" approach and the proposed "terse" approach. It was recommended
    that the changes proposed by the commenter would best be implemented through a
    maintenance request.

    The 802.3ab editor agreed to work with the commenter to prepare this maintenance request for
    submission after 802.3ab is approved by the Santdards Board and is accessible for
    maintenance.

Cl **40**　　　*SC* **40.12.4.1**　　　　　*P* **40-100**　　　*L* **36**　　　　**#** **7**
Brad Booth

Comment Type　**E**　　　*Comment Status*　**R**
　Clean up PICS PCR2.

SuggestedRemedy
　Change Feature to be "Descramble data"
　Change Value/Comment to be "Passed to Receive state machine"

Proposed Response　　　*Response Status*　**C**
　REJECT. The general change in PICs formatting proposed by the commenter was discussed
　by the task force and the task force voted to not make the proposed changes at this time
　because the changes were viewed too extensive for this stage of the review process. It was
　noted that the format currently used is technically correct and that there are pros and cons to
　both the current "verbose" approach and the proposed "terse" approach. It was recommended
　that the changes proposed by the commenter would best be implemented through a
　maintenance request.

　The 802.3ab editor agreed to work with the commenter to prepare this maintenance request for
　submission after 802.3ab is approved by the Santdards Board and is accessible for
　maintenance.

Cl **40**　　　*SC* **40.12.4.1**　　　　　*P* **40-100**　　　*L* **40**　　　　**#** **78**
Brad Booth

Comment Type　**E**　　　*Comment Status*　**R**
　Clean up PICS PCR3.

SuggestedRemedy
　Change Feature to be "Master side-stream descrambling"
　Change Value/Comment to be "Receiver descrambler generator polynomial"

Proposed Response　　　*Response Status*　**C**
　REJECT. The general change in PICs formatting proposed by the commenter was discussed
　by the task force and the task force voted to not make the proposed changes at this time
　because the changes were viewed too extensive for this stage of the review process. It was
　noted that the format currently used is technically correct and that there are pros and cons to
　both the current "verbose" approach and the proposed "terse" approach. It was recommended
　that the changes proposed by the commenter would best be implemented through a
　maintenance request.

　The 802.3ab editor agreed to work with the commenter to prepare this maintenance request for
　submission after 802.3ab is approved by the Santdards Board and is accessible for
　maintenance.

Cl **40**　　　*SC* **40.12.4.1**　　　　　*P* **40-100**　　　*L* **44**　　　　**#** **77**
Brad Booth

Comment Type　**E**　　　*Comment Status*　**R**
　Clean up PICS PCR4.

SuggestedRemedy
　Change Feature to be "Slave side-stream descrambling"
　Change Value/Comment to be "Receiver descrambler generator polynomial"

Proposed Response　　　*Response Status*　**C**
　REJECT. The general change in PICs formatting proposed by the commenter was discussed
　by the task force and the task force voted to not make the proposed changes at this time
　because the changes were viewed too extensive for this stage of the review process. It was
　noted that the format currently used is technically correct and that there are pros and cons to
　both the current "verbose" approach and the proposed "terse" approach. It was recommended
　that the changes proposed by the commenter would best be implemented through a
　maintenance request.

　The 802.3ab editor agreed to work with the commenter to prepare this maintenance request for
　submission after 802.3ab is approved by the Santdards Board and is accessible for
　maintenance.

Cl **40**　　　*SC* **40.12.4.2**　　　　　*P* **40-100**　　　*L* **50**　　　　**#** **61**
Brad Booth

Comment Type　**E**　　　*Comment Status*　**A**
　Heading floating without description.

SuggestedRemedy
　Remove "40.12.4.2 1".
　Change line 1 on page 40-101 to be "40.12.4.3 Other PCS functions"

Proposed Response　　　*Response Status*　**C**
　ACCEPT.

Cl **40**　　　*SC* **40.12.4.2**　　　　*P* **40-101**　　*L* **13**　　　# **75**

Brad Booth

Comment Type **E**　　　*Comment Status* **R**

Clean up PICS PCO2.

SuggestedRemedy

Change Feature to be "Carrier Sense state diagram"
Change Value/Comment to be "Meets the requirements of Figure 40-11

Proposed Response　　　*Response Status* **C**

REJECT. The general change in PICs formatting proposed by the commenter was discussed by the task force and the task force voted to not make the proposed changes at this time because the changes were viewed too extensive for this stage of the review process. It was noted that the format currently used is technically correct and that there are pros and cons to both the current "verbose" approach and the proposed "terse" approach. It was recommended that the changes proposed by the commenter would best be implemented through a maintenance request.

The 802.3ab editor agreed to work with the commenter to prepare this maintenance request for submission after 802.3ab is approved by the Santdards Board and is accessible for maintenance.

Cl **40**　　　*SC* **40.12.4.2**　　　　*P* **40-101**　　*L* **18**　　　# **76**

Brad Booth

Comment Type **E**　　　*Comment Status* **R**

Clean up PICS PCO3.

SuggestedRemedy

Change Feature to be "Symbol timer"
Change Value/Comment to be "Synchronous to TX_TCLK"

Proposed Response　　　*Response Status* **C**

REJECT. The general change in PICs formatting proposed by the commenter was discussed by the task force and the task force voted to not make the proposed changes at this time because the changes were viewed too extensive for this stage of the review process. It was noted that the format currently used is technically correct and that there are pros and cons to both the current "verbose" approach and the proposed "terse" approach. It was recommended that the changes proposed by the commenter would best be implemented through a maintenance request.

The 802.3ab editor agreed to work with the commenter to prepare this maintenance request for submission after 802.3ab is approved by the Santdards Board and is accessible for maintenance.

Cl **40**　　　*SC* **40.12.4.2**　　　　*P* **40-101**　　*L* **6**　　　# **74**

Brad Booth

Comment Type **E**　　　*Comment Status* **R**

Clean up PICS PCO1.

SuggestedRemedy

Change Feature to be "PCS Reset function"
Change Value/Comment to be " "

Proposed Response　　　*Response Status* **C**

REJECT. The general change in PICs formatting proposed by the commenter was discussed by the task force and the task force voted to not make the proposed changes at this time because the changes were viewed too extensive for this stage of the review process. It was noted that the format currently used is technically correct and that there are pros and cons to both the current "verbose" approach and the proposed "terse" approach. It was recommended that the changes proposed by the commenter would best be implemented through a maintenance request.

The 802.3ab editor agreed to work with the commenter to prepare this maintenance request for submission after 802.3ab is approved by the Santdards Board and is accessible for maintenance.

Cl **40**　　　*SC* **40.2**　　　　*P* **4-8**　　*L* **5**　　　# **33**

Brad Booth

Comment Type **E**　　　*Comment Status* **A**

typo

SuggestedRemedy

Change "(Chase 28.)" to "(Clause 28)."

Proposed Response　　　*Response Status* **C**

ACCEPT.

Cl **40**　　　*SC* **40.2**　　　　*P* **40-8**　　*L* **6**　　　# **34**

Brad Booth

Comment Type **E**　　　*Comment Status* **A**

last sentence is missing the references

SuggestedRemedy

Change sentence to read:
"The PMA Service Interface is defined in 40.2.2, and the MDI is defined in 40.8."

Proposed Response　　　*Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.3**   *P* **40-15**   *L* **9**   # **13**

Rich Seifert

Comment Type   **E**   *Comment Status* **A**

Clause 30 still does not specify any management *functions*. This is the same issue as my comment 16 from Draft 5.0, which was supposedly resolved.

SuggestedRemedy

Eliminate the implication that Clause 30 specifies any management functions.

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Clause 30 does indeed contain management functions (see 30.2.2.2).
Technically our statement is correct, however, in point of fact, Clause 30 contains functions to support MACs and repeaters. We believe the proper editorial change to resolve your comment is to change the term "The management functions are specified . . . " to "Management is specified . . ."
We believe this change could be made by the publications editor.

Cl **40**   *SC* **40.3.1.4**   *P* **40-30**   *L* **30**   # **69**

Brad Booth

Comment Type   **E**   *Comment Status* **A**

Last sentence of paragraph needs to updated.

SuggestedRemedy

Change to be "... this information to the PCS Carrier Sense and PCS Transmit functions via the parameter 1000BTreceive."

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.3.1.4.2**   *P* **40-31**   *L* **16**   # **72**

Brad Booth

Comment Type   **E**   *Comment Status* **A**

First sentence of paragraph is inaccurate.

SuggestedRemedy

Change to be "The PHY shall descramble the data stream and return the proper sequence of code-groups to the decoding process for generation of RXD<7:0> to the GMII."

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.3.3.2**   *P* **40-35**   *L* **33**   # **36**

Brad Booth

Comment Type   **E**   *Comment Status* **A**

typo

SuggestedRemedy

change "EECODE" to "ENCODE"

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.3.3.4**   *P* **40-35**   *L* **52**   # **37**

Brad Booth

Comment Type   **E**   *Comment Status* **A**

message and description of message on seperate pages

SuggestedRemedy

insert pagination prior to "40.3.3.4 Messages"

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.4.4**   *P* **40-46**   *L* **12**   # **43**

Brad Booth

Comment Type   **E**   *Comment Status* **A**

Remove reference to crossover cable and add reference of location of Table 40-12.

SuggestedRemedy

Change end of last sentence to read "... pin-outs for a 1000BASE-T crossover function is shown in Table 40-12 in 40.8."

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.4.4.1**   *P* **40-46**   *L* **22**   # **19**

Rich Seifert

Comment Type   **E**   *Comment Status* **R**

"Node" is undefined and vague.

SuggestedRemedy

Change "node" to "PMA" or "State Machine".

Proposed Response   *Response Status* **C**

REJECT.
Nodes have a rich history in 802.3, going all the way back to Clause 8. They have been used to describe attachment points ever since. Acceptance of your comment would require changes to Clauses 8, 14, 23, 32 and 38 where the term is used precisely as it is in Clause 40.

Cl **40**   *SC* **40.4.5.1**   *P* **40-47**   *L* **11**   # **41**

Brad Booth

Comment Type   **E**   *Comment Status* **A**

The link_control description can be simplified.

SuggestedRemedy

Change description to read "This variable is defined in 28.2.6.2."

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.4.5.1**   *P* **40-47**   *L* **23**   # **44**

Brad Booth

Comment Type   **E**   *Comment Status* **A**

Clean up description.

SuggestedRemedy

Remove ":" after "Link_Det"
Put first line of description on a new line (like previous descriptions)
Remove sentence "This variable take..."

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.4.5.1**   *P* **40-47**   *L* **29**   # **45**

Brad Booth

Comment Type   **E**   *Comment Status* **A**

Cleanup linkpulse description.

SuggestedRemedy

Remove ":" after "linkpulse"
Move description to a new line.

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.4.5.1**   *P* **40-47**   *L* **32**   # **42**

Brad Booth

Comment Type   **E**   *Comment Status* **A**

The link_status description can be simplified

SuggestedRemedy

Change description to read "This variable is defined in 28.2.6.1."

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.4.5.1**   *P* **40-47**   *L* **48**   # **46**

Brad Booth

Comment Type   **E**   *Comment Status* **A**

Cleanup MDI_Status description.

SuggestedRemedy

Remove ":" after "MDI_Status"
Indent the first line of the description.

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.4.5.1**   *P* **40-48**   *L* **17**   # **21**

Rich Seifert

Comment Type   **E**   *Comment Status* **A**

The note "POWER_ON evaluates to its default value in each state where it is not explicitly set."
is unclear. The term "evaluates" is ambiguous; does it mean "reverts"?
Also note that in no state in the PMA State Diagrams is POWER_ON ever explicitly set, which
makes the statement moot.

(ER comment)

SuggestedRemedy

Clarify the note, or eliminate it.

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.4.5.1**   *P* **40-48**   *L* **30**   # **47**

Brad Booth

Comment Type   **E**   *Comment Status* **A**

Cleanup RND(sample_timer) description.

SuggestedRemedy

Remove ":" after "RND(sample_timer)"
Move description to a new line.

Proposed Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Subclause, page, line
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

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Cl **40**   *SC* **40.4.5.1**

Cl **40**   *SC* **40.4.5.1**   *P* **40-48**   *L* **37**   # **56**

Brad Booth

Comment Type **E**   *Comment Status* **A**

Cleanup T_Pulse description.

SuggestedRemedy

Remove ":" after "T_Pulse"
Move first line of description to a new line.

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.4.5.1**   *P* **40-49**   *L* **1**   # **49**

Brad Booth

Comment Type **E**   *Comment Status* **A**

Disjointed text.

SuggestedRemedy

fix

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.4.6**   *P* **40-49**   *L* **3**   # **48**

Brad Booth

Comment Type **E**   *Comment Status* **A**

Keep heading with related information.

SuggestedRemedy

Move "40.4.6 State Diagrams" to the next page to proceed "40.4.6.1 PHY Control state diagram"

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.5**   *P* **4-53**   *L* **3**   # **79**

David Law

Comment Type **E**   *Comment Status* **A**

Typo.

SuggestedRemedy

'... MMII ...' should read '... MII ...'

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.5**   *P* **40-53**   *L* **1**   # **12**

Rich Seifert

Comment Type **E**   *Comment Status* **R**

SuggestedRemedy

Change "MMII" to "GMII".

Proposed Response   *Response Status* **C**

REJECT.

The correct term is MII Management Interface see 22.2.4.

Cl **40**   *SC* **40.5.1.1**   *P* **40-23**   *L* **41-47**   # **4**

John Montague

Comment Type **E**   *Comment Status* **A**

There are no longer three conditions

SuggestedRemedy

delete "three" on line 41
correct condition sequence letter ["c)" => "b)"] on line 46/47

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.5.1.3**   *P* **40-24**   *L*   # **3**

John Montague

Comment Type **E**   *Comment Status* **A**

Comment = Inconsistent usage of "half duplex" and "half-duplex" (see page 40-118 line 23 subclause 40.15.1 for example of latter)

SuggestedRemedy

SuggestedRemedy = be consistent throughout document (global search and replace)

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.5.1.3**   *P* **40-57**   *L* **7**   # **80**

David Law

Comment Type **E**   *Comment Status* **A**

typo

SuggestedRemedy

'... as defined in Clause 40 can use ...' should
read '... as defined in Clause 40) can use ...'

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.6**   *P* **40-60**   *L* **3**   *#* **14**

Rich Seifert

Comment Type   **E**   *Comment Status* **A**

The MDI electrical specifications are no longer here. They are in 40.8. Also, this subclause is the PMA, not the PHY.

SuggestedRemedy

Change to "This subclause defines the electrical characteristics of the PMA.".

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.6.1.1.3**   *P* **40-67,79**   *L* **12,24**   *#* **22**

Rich Seifert

Comment Type   **E**   *Comment Status* **A**

A filter's transfer function normally spans both the positive and negative frequency domains. There is no need to restrict j to its positive absolute value.

SuggestedRemedy

Change to "Note: j denotes the square root of -1."

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.6.1.2.5**   *P* **40-78**   *L* **52**   *#* **23**

Rich Seifert

Comment Type   **E**   *Comment Status* **A**

The footnote is a remnant of the last draft, and should be removed.

SuggestedRemedy

Delete the footnote.

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.7.6**   *P* **40-73**   *L* **1**   *#* **2**

John Montague

Comment Type   **E**   *Comment Status* **A**

Table missing caption

SuggestedRemedy

 provide caption (see also uncaptioned tables page 40-119/120 in subclause 40.15.3, and page 40-125 subclause 40.16.2; and uncaptioned Figure page 40-98 in subclause 40.9.1.3.3)

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.8.2**   *P* **40-86**   *L* **35**   *#* **85**

Geoff Thompson

Comment Type   **E**   *Comment Status* **A**

The 3rd word "crossover" in this context is supposed to refer to the automatic function rather than crossover in general. Stated this way the meaning is not clear.

SuggestedRemedy

Change "crossover" to "Automatic MDI/MDI-X Configuration (see 40.4.4)"

Delete last sentence of this sub-clause (pg 87, line 21)

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.8.2**   *P* **40-86**   *L* **35-37**   *#* **24**

Rich Seifert

Comment Type   **E**   *Comment Status* **A**

Since 1000BASE-T requires Auto-Negotiation, the statement that 1000BASE-T does not require a crossover function while Auto-Negotiation does is contradictory.

SuggestedRemedy

Clarify the wording so that it is clear that the crossover function is required in 1000BASE-T only for proper operation of Auto-Negotiation.

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.8.2**   *P* **40-86**   *L* **40**   *#* **86**

Geoff Thompson

Comment Type   **E**   *Comment Status* **A**

The meaning of the word "middle" is unclear

SuggestedRemedy

Change to "middle column

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.8.2**   *P* **40-86**   *L* **43-44**   # **25**

Rich Seifert

Comment Type   **E**   *Comment Status* **A**

The statement that 1000BASE-T crossover is not compatible with Clause 14 gives the implication that a 1000BASE-T crossover cable (or connector) cannot be used for 10BASE-T, which is not (or should not be) true.

SuggestedRemedy

Clarify the wording

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **Figure 40-10a**   *P* **40-39**   *L* **4**   # **40**

Brad Booth

Comment Type   **E**   *Comment Status* **A**

text and line overlap

SuggestedRemedy

fix

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **Figure 40-5**   *P* **40-15**   *L*   # **17**

Rich Seifert

Comment Type   **E**   *Comment Status* **A**

My comment 14 from Draft 5.0 is still unresolved.

SuggestedRemedy

Change "TX_EN" to "tx_enable" in the figure. There is no signal "TX_EN" defined in the interface.

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
Figure redrawn to harmonize with Figure 40-3.

Note that the TX_EN provided to the PMA is a direct transfer from the GMII to the PMA as shown in Figure 40-3.

Cl **40**   *SC* **Figure 40-5**   *P* **40-5**   *L*   # **35**

Brad Booth

Comment Type   **E**   *Comment Status* **A**

Was not updated in D5.1.

SuggestedRemedy

Update figure using Figure 40-3 as the reference.

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **Figure 40-9**   *P* **40-38**   *L*   # **68**

Brad Booth

Comment Type   **E**   *Comment Status* **A**

Values incorrectly entered

SuggestedRemedy

"ESD2_ext_0", "ESD2_ext_1" and "ESD2_ext_2" should be "ESD2_Ext_0", "ESD2_Ext_1" and "ESD2_Ext_2"

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **Figure 40-9**   *P* **40-38**   *L*   # **39**

Brad Booth

Comment Type   **E**   *Comment Status* **A**

state diagram is ugly

SuggestedRemedy

use one line weight for all lines
justification within states should be consistent
use better spacing techniques or break out onto two pages

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE. . . But will keep on one page.

Cl **40**   *SC* **Figure 40-9**   *P* **40-38**   *L*   # **38**

Brad Booth

Comment Type   **E**   *Comment Status* **A**

typo

SuggestedRemedy

"If" in the state machine should be "IF"

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.3.1.3.5**   *P* **40-22**   *L* **15**   **#** **64**

Brad Booth

Comment Type   **T**   *Comment Status* **A**

Description is incorrect and the "shall" is redundant.

SuggestedRemedy

Change to be:
"If tx_errorn=0 when the variable csresetn=1, the convolutional encoder reset condition is normal. This condition is indicated by means of symbol substitution, where the values of Sdn[5:0] are ignored during mapping and the symbols corresponding to the row denoted as "CSReset" in Table 40-1 and Table 40-2 shall be used."

Leave the PICS (PCT8), but clean it up.

Proposed Response   *Response Status* **C**

ACCEPT.
The change "by PCS Transmit" and "during mapping" are deemed equivalent. This is defined as an editorial change.

Cl **40**   *SC* **40.3.1.3.5**   *P* **40-22**   *L* **22**   **#** **91**

Brad Booth

Comment Type   **T**   *Comment Status* **A**

First sentence of description is incorrect and the shalls are redundant.

SuggestedRemedy

"If tx_errorn=1 when the variable csresetn=1, the convolutional encoder reset condition indicates carrier extension. In this condition, the values of Sdn[5:0] are ignored during mapping and the symbols corresponding to the row denoted as "CSExtend" in Table 40-1 and Table 40-2 shall be used when TXDn=0x'0F, and the row denoted as "CSExtend_Err" in Table 40-1 and Table 40-2 shall be used when TXDn!=0x'0F."
The remainder of the paragraph is okay.
There should be three PICS entries instead of two.

TO EDITOR ch != to NE sign

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.3.1.3.5**   *P* **40-22**   *L* **33**   **#** **65**

Brad Booth

Comment Type   **T**   *Comment Status* **A**

Description doesn't match state machine and the shalls are not required.

SuggestedRemedy

Change second sentence in the paragraph to be:
"For the generation of "SSD", the first two octets of the preamble in the data stream are mapped to the symbols corresponding to the rows denoted as SSD1 and SSD2 respectively in Table 40-1."

Leave the PICS (PCT11 and PCT12), but clean them up.

Proposed Response   *Response Status* **C**

ACCEPT.
The change from PCS Transmit to mapped is deemed equivalent. This is defined as an editorial change.

Cl **40**   *SC* **40.3.1.3.5**   *P* **40-22**   *L* **43**   **#** **66**

Brad Booth

Comment Type   **T**   *Comment Status* **A**

Description hard to understand and the shalls are not required.

Withdrawn by commentor

SuggestedRemedy

Change description to be:
"The End-of-Stream Delimiter (ESD) occurs during the third and fourth symbol periods after transmission of the last octet of a data stream. In the absence of carrier extension, the third symbol period will correspond to the ESD1 row, and the fourth symbol period will correspond to the ESD2_Ext_0 row.

If carrier extension without error is indicated during ESD, the third symbol period will correspond to the ESD1 row, and the fourth symbol period will correspond to the ESD2_Ext_2 row.

If carrier extension should be deasserted prior to transmission of the fourth symbol period, the fourth symbol period will correspond to the ESD2_Ext_1 row.

If an error is indicated during carrier extension in either ESD symbol period, that symbol will correspond to the ESD_Ext_Err row."

Remove PICS entries PCT13, PCT14, PCT15, PCT16, and PCT17.

Proposed Response   *Response Status* **C**

ACCEPT-- withdrawn by commentor

Cl **40**   *SC* **40.3.1.3.5**   *P* **40-22**   *L* **8**   **#** **63**

Brad Booth

Comment Type   **T**   *Comment Status* **A**

Description is incorrect and the "shall" is redundant.

Re-issue of comment due to missing PICS removal in remedy.

SuggestedRemedy

Change to be:
"If tx_errorn=1 when the condition (tx_enablen * tx_enablen-2)=1, error indication is signaled by means of symbol substitution. In this condition, the values of Sdn[5:0] are ignored during mapping and the symbols corresponding to the row denoted as "xmt_err" in Table 40-1 and Table 40-2 shall be used."

Leave the PICS (PCT7), but clean it up.

Proposed Response   *Response Status* **C**

ACCEPT. The change "by PCS Transmit" and "during mapping" are deemed equivalent. This is defined as an editorial change.

Cl **40**   *SC* **40.3.1.3.5**   *P* **40-22**   *L* **8**   **#** **62**

Brad Booth

Comment Type   **T**   *Comment Status* **A**

Description is incorrect and the "shall" is redundant.

SuggestedRemedy

Comment redundant--replaced by Comment # 63.

Proposed Response   *Response Status* **C**

ACCEPT.

Cl **40**   *SC* **40.4.5.1**   *P* **40-48**   *L* **46**   **#** **55**

Brad Booth

Comment Type   **T**   *Comment Status* **A**

Unnecessary "shall". This requirement is covered by the "shall" of PCT2.

SuggestedRemedy

Change "shall" into "will".

Remove PICS entry PCT3.

Recirculate

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "PCS Transmit shall send" to "PCS Transmit sends"

recirculate

Cl **40**   *SC* **Figure 40-17**   *P* **40-52**   *L* **57**   **#** **50**

Brad Booth

Comment Type   **T**   *Comment Status* **A**

State machine specific reset variables can be replaced with common reset variable.

SuggestedRemedy

Change "POWER_ON = TRUE + RESET = TRUE" to "pma_reset=ON".
Remove variable POWER_ON and RESET from 40.4.5.1 on page 40-48.

Proposed Response   *Response Status* **C**

ACCEPT.   Recirculate

Cl **40**   *SC* **Figure 40-9**   *P* **40-38**   *L*   # **67**

Brad Booth

Comment Type **T**   *Comment Status* **A**

State machine transition is missing descriptor.

SuggestedRemedy

Transition from SSD1 VECTOR to SSD2 VECTOR, ERROR should be labeled "STD * tx_error=TRUE"

Proposed Response   *Response Status* **C**

ACCEPT.
Editorial error--correction made in changes to D4.--also, the change below

Also transition from CARRIER EXTENSION to "Connector A" should be STD*tx_enable=FALSE*tx_error=FALSE

NOTE: THIS CHANGE WAS NOT SEEN BY SPONSOR BALLOT GROUP

Recirculate text describing the changes

Cl **40**   *SC*   *P*   *L*   # **5**

John Messenger

Comment Type **TR**   *Comment Status* **R**

There has been no demonstration of technical feasibility through prototype implementation. In my view this is necessary, particularly for a PHY standard, before the standardisation. Pat Thaler makes the very good point that practical experience may well reveal the requirement to change the specification. From my experience in other standards projects, I know that lab testing and interoperability testing of prototype implementations is often required to reveal flaws in the specification at all levels. I can't see the point in publishing a standard with that degree of uncertainty.

SuggestedRemedy

Delay the approval of the standard until existence proofs are available.

Proposed Response   *Response Status* **U**

REJECT.

Comment is deemed outside the scope of the recirculation since no suggested remedy to the draft was provided.

There is no formal provision in the IEEE standards process and associated approval process for such delay. See IEEE SA Standards Board Operations Manual (1999) 5.4.3.2 paragraph 6.

Cl **40**   *SC*   *P*   *L*   # **9**

Rich Seifert

Comment Type **TR**   *Comment Status* **R**

I wish to add my voice to that of Ms. Thaler and Mr. Frazier regarding the need for a practical demonstration of 1000BASE-T technology prior to standardization. (See comments 36 and 119 from Draft 5.0.)

While there is historical precedent for forwarding a draft standard to RevCom without such demonstration, the only technologies where 802.3 has taken such action have proved to be commercial failures. As Ms. Thaler noted, neither of those technologies (10BASE-FP and 100BASE-T2) have even seen commercial realization, much less any market acceptance. We surely do not want to add 1000BASE-T to this list of technologies standardized without any real-world test.

I agree that 1000BASE-T has been extensively simulated, by many different developers, and that the simulations all indicate that there are no significant problems. However, while simulations are clearly *necessary* to develop technologies such as 1000BASE-T, they are not *sufficient* to ensure operation and interoperation, especially under worst-case boundary conditions. Simulations are only as good as the models used; the real-world is always more complex than any computer model. No product engineer would ship a product based on simulation alone, without actually testing a prototype unit. We should not "ship" a standard (which is really the "product" of the Working Group) without having equivalent prototype test results available. In the past, commercial forces have almost always produced public demonstrations and/or product shipments prior to release of a standard, and no action on the part of the Working Group was required in this regard; in the case of 1000BASE-T, the standard development process is currently ahead of the product development process. We need to delay the standard until the product development process catches up.

1000BASE-T is without a doubt the most complex LAN PHY technology ever developed. It incorporates features not present in any other 802.3 technology, and which have never been used before at anywhere near these data rates over an unshielded twisted pair cable. It is expected that silicon implementing 1000BASE-T will require millions of transistors. The possibilities for problems, both in the specification and the implementation, are numerous. Do we really want to publish our *standard*, to say to both the vendor and the user communities, "This is the precise set of behaviors required for operation, for interoperation, and for conformance", without having ever seen whether it works?

New technologies develop their reputation in the marketplace quickly. If a product works reliably, from the beginning, it carries this perception through its entire life. This occurred with many of the 802.3 PHY technologies, including 10BASE-T. If a technology has initial problems, it tends to carry this stigma forever, even if the problems are later solved. People always remember, "Oh, yes, that works, but it's a little flaky and sensitive. Don't use it unless you really have to; it's a lot of trouble to deal with." By approving 1000BASE-T without any practical demonstration and test, we take an enormous risk with market acceptance. Even though we have the process to correct errors later, the die will already be cast; users, industry analysts and other will have formed their opinions. It will be difficult to overcome any such initial negative impressions.

SuggestedRemedy

1) Delay forwarding the Draft to RevCom until such time as test data from practical implementations of the standard have been submitted to the satisfaction of the Working Group.

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Subclause, page, line   Page 14 of 19

RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *Cl* **40**   *SC*

alternatively

(2) Forward the standard to RevCom for "Trial Use", with an appropriate warning within the standard itself that the technology is as yet unproved, and the standard may change as a result of testing of initial implementations.

Proposed Response   *Response Status* **U**

REJECT

Editor's Note: Section 5.7 of the IEEE Standards Operations Manual (1999) is incorporated into this response as a pont of information.

5.7 Trial-Use standards
Trial-Use standards are effective for not more than two years from the date of publication. In the absence of comments received in the trial period, the document is subject to adoption as a full-status standard by the IEEE-SA Standards Board upon recommendation of the Sponsor. Trial-Use standards shall contain a published scheduled cutoff date for receipt of comments and for further revision and approval action. This cutoff date shall be at least six months before the end of the trial-use period for the standard.

The approval period for a trial-use standard that is adopted as a full-status standard without change shall be for a total of five years from the start of the trial-use period. If the trial-use period demonstrates that a trial-use standard has to undergo changes to become a full-status standard, a PAR for revision of an existing standard shall be prepared.

Trial-Use standards may result from one of the following:

a) At the Standards Development Level. When a draft has been generated that generally satisfies the standards developing group (i.e., subcommittee or working group) but needs input from a very broad constituency, such a draft may be processed as an IEEE Trial-Use Standard. For approval, such a draft requires a letter ballot of the Sponsor and approval by the IEEE-SA Standards Board as a trial-use standard.
b) At the Sponsor Level. When a Sponsor is unable to resolve negative ballots to a satisfactory level, or uncertain aspects of the document justify preliminary distribution, it may consider submission of the draft to the IEEE-SA Standards Board as a trial-use standard.
c) At the IEEE-SA Standards Board Level. When the IEEE-SA Standards Board cannot attain a suitable level of approval for a draft submitted for adoption as an IEEE Standard, it may decide to approve it as a trial-use standard.

Cl **40**   *SC*   *P*   *L*   # **6**

Johnny Zweig   Nortel Networks

Comment Type   **TR**   *Comment Status* **R**

I am swayed by Howard Frazier's and Pat Thaler's comments regarding the continued lack of operational implementations of 1000BASE-T, and agree that it would be inappropriate to sponsor the draft and forward it for release as a full IEEE standard at this time.

SuggestedRemedy

The IEEE Standards Companion describes a Trial-Use Standard (http://standards.ieee.org/guides/companion/part6.html#trial). I believe it would be appropriate to release 802.3ab as a trial-use standard, which would give the material the desired legitimacy as a "real" standard, but provide a mechanism to correct any problems that might be discovered only after gaining real experience with operational implementations. The standard could automatically be promoted to full standard status if everything works out, and could be changed if the working group feels it necessary to address comments that might be received after its release. This sounds to me like precisely what is needed in this case.

Proposed Response   *Response Status* **C**

REJECT.
Comment is deemed outside the scope of the recirculation since no suggested remedy to the draft was provided.Confirmed by ruling of 802.3 chair 3/11/99.

The proposed remedy to change the Draft to "Trial Use" violates the PAR under which 802.3ab work was conducted and is deemed out-of-scope as a remedy.

Commentor accepted rejection based on technical assurances provided by companies currently implementing this technology.

Cl **40**   *SC*   *P*   *L*   **#** **73**

Brad Booth

Comment Type   **TR**   *Comment Status*   **A**

I feel that this draft is not ready for approval by RevCom due to the overwhelming work required in the PICS section of the document and the sheer volume of Editorial and Technical comments that have been generated by myself. Although I feel that 1000BASE-T may be technically feasible, I cannot in good conscience approve this draft given the current state of the document.

withdrawn by commentor

SuggestedRemedy

Make all technical and editorial changes requested by myself. Review the PICS to find and eliminate conflicting or redundant items.

Proposed Response   *Response Status*   **C**

ACCEPT. (That this comment was withdrawn.)

Cl **40**   *SC*   *P*   *L*   **#** **81**

Geoff Thompson

Comment Type   **TR**   *Comment Status*   **A**

Although 2 of my comments are marked required and because of that I am voting DISAPPROVE it is my hope/belief that an appropriate resolution of my comments can be done without being the forcing element in causing a recirculation.
Presented with that appropriate resolution I am prepared to change my DISAPPROVE to APPROVE/COMMENT.

SuggestedRemedy

Proposed Response   *Response Status*   **C**

ACCEPT.

Cl **40**   *SC* **40.11.1**   *P* **40-91**   *L* **1**   **#** **10**

Rich Seifert

Comment Type   **TR**   *Comment Status*   **A**

Although the text above this statement discusses both battery voltage and ringing voltage, the conformance requirement given is only to survive the battery voltage (defined earlier as the DC component). It is important for a device to survive both the DC and the AC ringing components.

Furthermore, since the specification given for the battery voltage is only that it is "generally 56 V", there is no objective conformance test possible for this requirement. (The place where the DC component is objectively stated to be precisely 56 V is in the definition of the ringing voltage, which this conformance statement does not address.)

Also, since the stated requirement is to survive the battery supply at the outlet, it is unclear whether the conformance requirement is for the specified voltage (presumably 56 V), or for the actual battery and/or ringing voltage present at the outlet. Finally, there is a transient voltage ("large reactive transients") that is alluded to, but for which there is no specification, nor any requirement for a device to survive.

SuggestedRemedy

Change the sentence to, "1000BASE-T equipment shall be capable of withstanding both the AC and DC components of the ringing voltage as specified above." In addition, provide an objective, measurable transient susceptibility specification.

Proposed Response   *Response Status*   **C**

ACCEPT.
Draft text will be replaced with the text regarding telephone voltage as stated in clause 14.

Cl **40**   *SC* **40.11.1**   *P* **93-94**   *L*   **#** **11**

Rich Seifert

Comment Type   **TR**   *Comment Status*   **R**

There is still no specification for the MAC-MDI delay for a full duplex device with an unexposed GMII. This is the same comment as Item 4 from my comment 87 on Draft 5.0, which was presumably resolved but which did not get into Draft 5.1.

SuggestedRemedy

Include a specification for MAC-MDI delays for a full duplex PHY with no GMII.

Proposed Response   *Response Status*   **C**

REJECT.
This information is not required. The information provided in this subclause mirrors the information provided in the parallel subclause in Clause 36. The information shown here, combined with information already available in Clause 31, is sufficient to meet the need expressed in this comment.

Cl **40**   *SC* **40.11.3**   *P* **40-94**   *L* **43**   # **8**
Rich Seifert

Comment Type   **TR**   *Comment Status*   **A**

Delay is measured in time, not bits. Note that this is a TR comment due to it requiring a change to a "shall" statement (conformance requirement).

SuggestedRemedy

Change Bits to Bit Times or BT.

Proposed Response   *Response Status*   **C**

ACCEPT.
Line 43 to be corrected.
Applied to headers for Tables 40-13, 40-14 and 40.15 as well. The BT to be removed from cells

These changes will be recirculated.

Changes to be carried on to appropriate PIC TR4.

Since tables were extracted from Clause 14 and the text in 40.11.3 was extacted from Clause 36, we recommend that the commenter consider a maintenance request to clean up the source clauses.

Cl **40**   *SC* **40.3.1.3.1**   *P* **40-17**   *L* **38**   # **18**
Rich Seifert

Comment Type   **TR**   *Comment Status*   **A**

The statement says that in no case shall the scrambler state be set to all zeros. This implies that some mechanism is needed to prevent the all-zeros state from occurring even during data scrambling. I believe the intent of the statement was to preclude *initializing* the scrambler to all zeros.

SuggestedRemedy

Change to "In no case shall the scrambler state be initialized to all zeros."

Proposed Response   *Response Status*   **C**

ACCEPT.

Recirculate

Cl **40**   *SC* **40.4.4.1.1**   *P* **40-46**   *L* **30**   # **20**
Rich Seifert

Comment Type   **TR**   *Comment Status*   **A**

The standard should not mandate a particular implementation. This subclause requires a Shift-Register implementation of the pseudorandom sequence generator.

SuggestedRemedy

Change "The implementation of the Automatic MDI/MDI-X linear-feedback shift register is shown in Figure 40-14." to "One possible implementation of the pseudorandom sequence generator using a linear-feedback shift register is shown in Figure 40-14." Change the title of the subclause to "Pseudo-random sequence generator".

Proposed Response   *Response Status*   **C**

ACCEPT. This change is deemed an editorial change, but will be included in the recirculation.

Cl **40**   *SC* **40.6.1.3.3**   *P* **40-80**   *L* **14-15**   # **15**
Rich Seifert

Comment Type   **TR**   *Comment Status*   **A**

The is supposedly the resolution of my comment 53 from Draft 5.0. However, the issue in that comment (and in the discussions held at the Task Force meeting) were about connections between the reference plane and the test equipment and/or an external earth reference, not the equipment under test.

SuggestedRemedy

Change to, "The chassis ground of all test equipment used should be connected to the copper ground plane. No connection is required between the copper ground plane and an external earth reference."

Proposed Response   *Response Status*   **C**

ACCEPT. To be recirculated

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Subclause, page, line
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

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Cl **40**   *SC* **40.6.1.3.3**

Cl **40**   *SC* **40.8.2**   *P* **40-86**   *L* **43**   # **87**
Geoff Thompson

Comment Type **TR**   *Comment Status* **A**

I don't understand the last sentence in this paragraph,
"The crossover function specified here is not compatible with the cross-over function specified in 14.5.2 for pairs TD and RD."

As closely as I can tell Table 40-12 associates the following in the MDI context:
Pin1 = TD+ = BI_DA+
Pin2 = TD- = BI_DA-

Pin3 = RD+ = BI_DB+
Pin6 = RD- = BI_DB-
And the crossover precisely matches the crossover function specified in 14.5.2 for pairs TD and RD. If it did not then Auto-Negotiation would not work(Editorial; Required)

SuggestedRemedy

Convince me that I am wrong or change the text to read:
"The crossover function specified here is compatible with the cross-over function specified in 14.5.2 for pairs TD and RD."

(I believe that this change is not a technical change but only a change for consistency because of an editorial error. If necessary this change should be able to be accomplished during preparation for publication.)

Proposed Response   *Response Status* **C**
ACCEPT.

We will tune the text to ensure consistency.

Cl **40**   *SC* **40.8.2**   *P* **40-86**   *L* **47**   # **88**
Geoff Thompson

Comment Type **TR**   *Comment Status* **A**

Repeaters are not expected to be common for 1000BASE-T networks. The context of the paragraph needs to be changed to something more appropriate to high speed modern networks

SuggestedRemedy

Change text to read:
"When a link segment connects an end station to a repeater or other multiport device, it is recommended the crossover be implemented in the PHY local to the multiport device. If neither or both PHYs of a link segment contain internal crossover functions, an external crossover is necessary. It is recommended that the crossover be visible to an installer from one of the PHYs. When both PHYs contain internal crossovers, it is further recommended in networks in which the topology identifies either a central backbone segment or a central device that the PHY furthest from the central element be assigned the external crossover to maintain consistency."

(I believe that this change is not a technical change but only a clarification of what we all know to be true. If necessary this change should be able to be accomplished during preparation for publication.)

Proposed Response   *Response Status* **C**
ACCEPT IN PRINCIPLE.

Text to be tuned and multiport to be changed to multi-port

Cl **40**   *SC* **40a**   *P* **121**   *L* **8**   # **89**
Geoff Thompson

Comment Type **TR**   *Comment Status* **A**

This is MUCH better than last time but if you'll forgive me for being such a pain about this I would like a little more work on the drawings

SuggestedRemedy

1. Change the line weight on the cable itself to twice the line weight of the others.

2. Clean up the line intersections between the cable and the left side of the TO in both A-1 and A-2.

3. Clean up the line intersections between the cable and the Interconnect in A-2.

4. Center the word "Interconnect" under the interconnect box in A-2.

Proposed Response   *Response Status* **C**
ACCEPT. This is deemed a minor editorial change as per the commenter.

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Subclause, page, line
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn
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Cl **40**   *SC* **40a**

Cl **40**   *SC* **40a**   *P* **40-122**   *L* **9**   **#** **90**

Geoff Thompson

Comment Type   **TR**   *Comment Status*   **A**

The reproduction quality of Figure 40B-1 and 40B-2 is still poor. In particular the quality of the text reproduction in the figure is abysmal.

SuggestedRemedy

Import figure 40B-1 on something other than a bit-map basis or at least jump the resolution.

I suggest the following in order of preference:
1. See if the original drawing can be reacquired from the submitter in something other than bitmap mode that hopefully can be imported on a vector and character basis into Framemaker graphics.

2. See if the original drawing can be reacquired from the submitter in bitmap mode at significantly higher resolution and then reimported into Framemaker graphics.

3. Have the submitter plot/print the drawings at the highest resolution available on the originating system and then have those drawings rescanned at the IEEE editorial department.

Proposed Response   *Response Status*   **C**

ACCEPT.
We will work with the drawing source and the IEEE publications editor to improve the quality of this figure as proposed by the commentor. This is deemed an editorial change as per the commenter.

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Subclause, page, line   Page 19 of 19

RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn   *Cl* **40**   *SC* **40a**