Cl **00** *SC* **0** *P* *L* # 110

Lo, William Marvell Semiconducto

Comment Type **TR** *Comment Status* **A** *Keep Open*

Synchronization state machine not in draft

SuggestedRemedy

See Lo_3bp_03_0115.pdf
Amended state machine in slide 3.
Proposed variable text in slide 6.
Editor has license to change wording of references in slide 6.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Use updated state machine per http://www.ieee802.org/3/bp/public/jan15/Lo_3bp_01_0115.pdf, page 3.
Use variables per http://www.ieee802.org/3/bp/public/jan15/Lo_3bp_01_0115.pdf, page 6.
Editor has license to link variables from other subclauses, as needed.

Insert new subclause 97.6 followed by this text and the new state diagrams.

97.6 PHY Link Synchronization
The synchronization state diagram in this section shall be used to synchronize the PHYs prior to 1000BASE-T1 link training if Clause 98 Auto-Negotiation is disabled. The synchronization state diagram shall not be used if Clause 98 Auto-Negotiation is enabled as the Auto-Negotiation mechanism will be the synchronization mechanism.

==========

Accept the proposed response to comment #110
Yes: 10
No: 4
Abstain: 4

Motion fails

==========

OPTION 2

Use updated state machine per http://www.ieee802.org/3/bp/public/jan15/Lo_3bp_01_0115.pdf, page 3.
Use variables per http://www.ieee802.org/3/bp/public/jan15/Lo_3bp_01_0115.pdf, page 6.
Editor has license to link variables from other subclauses, as needed.

Insert new subclause 97.6 followed by the new state diagrams.

97.6 PHY Link Synchronization

==========

Accept the proposed response to comment #110 (Option 2)
Yes: 16
No: 0
Abstain: 3

Motion passes. Option 2 is accepted for implementation

Cl **00** *SC* **0** *P* *L* # 109

Lo, William Marvell Semiconducto

Comment Type **TR** *Comment Status* **A** *Keep Open*

OAM mechanics is not defined

SuggestedRemedy

See Lo_3bp_02_0115.pdf for description and proposed text in 8023bp_proposed_OAM_text.pdf

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
See Lo_3bp_04_0115.pdf for description, but place it into 97.7.

Cl **00** *SC* **0** *P* *L* # 79

Regev, Alon Ixia

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

reference links seem to not work in the pdf document

it looks like the links point to a relateive path "frame/frame/P8023bp D1.10.pdf" instead of just pointing to "P8023bp D1.10.pdf".

SuggestedRemedy

correct the relative path used in the links

Response *Response Status* **C**

ACCEPT.

Cl **01** *SC* **1.5** *P* **18** *L* **27** # 75

Mitsuru, Iwaoka Yokogawa Electric Cor

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

"FEXT" and "NEXT" are already defined in P802.3bx D2.0.

SuggestedRemedy

Remove definitions of "FEXT" and "NEXT".

Response *Response Status* **C**

ACCEPT.

Note: this is a technical comment!

Cl **01** *SC* **1.5** *P* **18** *L* **33** # 76

Mitsuru, Iwaoka Yokogawa Electric Cor

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

"PSAACRF", "PSANEXT", "TCL", and "TCTL" are also used in P802.3bw 100BASE-T. As P802.3bw will be publiched earlier than P802.3bp, it is better to define these terms in P802.3bw.

SuggestedRemedy

Move the definitions of these terms to P802.3bw.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Note: this is a technical comment!

Steve to work with P802.3bw to get these acronyms copied into P802.3bw draft.

Insert an editorial note into P802.3bp draft into section 1.5, indicating that we use acronyms as defined in P802.3bw. Keep them in sync.

Cl **34** *SC* **34.1** *P* **21** *L* **50** # 82

Regev, Alon Ixia

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

"and" is used multiple times in the list of PHY sublayers. The "and" should apear only once in the list (just prior to the last entry).

SuggestedRemedy

Change "1000BASE-LX, 1000BASE-SX, and 1000BASE-CX, and 1000BASE-T, and 1000BASE-T1" to "1000BASE-LX, 1000BASE-SX, 1000BASE-CX, 1000BASE-T, and 1000BASE-T1"

Response *Response Status* **C**

ACCEPT.

Use proper editorial markup

Cl **34** *SC* **34.1.5** *P* **23** *L* **1** # 115

Lo, William Marvell Semiconducto

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

There should be a new subheading called:
Auto-Negotiation, type 1000BASE-T1
1000BASE-T1 uses Clause 98 Autoneg and not clause 28 Autoneg

SuggestedRemedy

Delete page 23 line 1 and insert new sub section 34.1.7 instead
34.1.7 Auto-Negotiation, type 1000BASE-T1

Auto-Negotiation (Clause 98) may be used by 1000BASE-T1 devices to detect the abilities (modes of operation) supported by the device at the other end of a link segment, determine common abilities, and configure for joint operation. Auto-Negotiation is performed upon link startup through the use of half-duplex differential Manchester encoding.

The use of Clause 98 Auto-Negotiation is optional for 1000BASE-T1 PHY.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Remove text on page 23, line 1

Insert a new subclause with a proper markup

34.1.5a Auto-Negotiation, type 1000BASE-T1

Auto-Negotiation (Clause 98) may be used by 1000BASE-T1 devices to detect the abilities (modes of operation) supported by the device at the other end of a link segment, determine common abilities, and configure for joint operation. Auto-Negotiation is performed upon link startup through the use of half-duplex differential Manchester encoding.

The use of Clause 98 Auto-Negotiation is optional for 1000BASE-T1 PHY.

Cl **34** *SC* **34.1.5** *P* **23** *L* **1** # 71

McClellan, Brett Marvell

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

add text to reference the optional Auto-Negotiation in Clause 98.

SuggestedRemedy

Add text:
"Single twisted pair Auto-Negotiation (Clause 98) is used by 1000BASE-T1 devices to detect the abilities supported by the device at the other end of a link segment, determine common abilities, and configure for
joint operation. "

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Note: this is a technical comment!

See comment #115 for resolution.

Cl **35** *SC* **35.1.1** *P* **25** *L* **25** # 83

Regev, Alon Ixia

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

There should not be a comma before the "and" in "Clause 36, and Clause 97"

SuggestedRemedy

Change "Clause 36, and Clause 97" to "Clause 36 and Clause 97"

Response *Response Status* **C**

ACCEPT.

Cl **97** *SC* **3.2.2.7** *P* **36** *L* **49** # 116

Chen, Steven Broadcom

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

There is no more self-synchronizing scrambler in data mode.

SuggestedRemedy

Change to:

c) The RS frame containing this 80B/81B block is uncorrectable.

Response *Response Status* **C**

ACCEPT.

Cl **97** *SC* **3.5.2.1** *P* **43** *L* **38** # 117

Chen, Steven Broadcom

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

Wrong definition for IBLOCK_R<99:0>

SuggestedRemedy

Change to:

IBLOCK_R<99:0>
TYPE: bit vector
100-bit vector to be sent to the GMII containing idles in all 10 character locations.

Response *Response Status* **C**

ACCEPT.

Cl **97** *SC* **3.5.4** *P* **47** *L* **17** # 118

Chen, Steven Broadcom

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

"IBLOCK_T" not defined in the "SEND_IDLES" state

SuggestedRemedy

Add definition in Subclause 97.3.5.2.1 for "IBLOCK_T"

IBLOCK_T<99:0>
TYPE: bit vector
100-bit vector to be sent to the encoder containing idles in all 10 character locations.

Response *Response Status* **C**

ACCEPT.

Cl **97** *SC* **97.1** *P* **29** *L* **17** # 77

Mitsuru, Iwaoka Yokogawa Electric Cor

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

97.1 states a mechanical specification is provided in this clause, but no mechanical specification is provided in this draft. Is there any plan to specify the mechanical specification of connectors or cables?

SuggestedRemedy

Delete "mechanical".

Response *Response Status* **C**

ACCEPT.

Note: this is a technical comment!

Cl **97** *SC* **97.3.2.1** *P* **31** *L* **32** # 78

Mitsuru, Iwaoka Yokogawa Electric Cor

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

A condition of "Power on" is not defined in 97.3.5.2.2.

SuggestedRemedy

Move "(see 97.3.5.2.2)" after the first sentense of the 2nd paragraph (P31, L35).

Response *Response Status* **C**

ACCEPT.

Cl **97** *SC* **97.3.2.2** *P* **31** *L* **52** # 100

Lo, William Marvell Semiconducto

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

The OAM symbol is also packed

SuggestedRemedy

Change sentence:
The subsequent functions of the PCS Transmit process then pack the resulting blocks which are processed by a Reed-Solomon (RS) encoder and then 3B2T mapped into a transmit RS frame of PAM3 symbols.
To:
The subsequent functions of the PCS Transmit process then pack the resulting blocks plus one OAM9 symbol which are processed by a Reed-Solomon (RS) encoder and then 3B2T mapped into a transmit RS frame of PAM3 symbols

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change sentence:
The subsequent functions of the PCS Transmit process then pack the resulting blocks which are processed by a Reed-Solomon (RS) encoder and then 3B2T mapped into a transmit RS frame of PAM3 symbols.

To:
The subsequent functions of the PCS Transmit process then pack the resulting blocks plus one OAM9 symbol, both of which are then processed by a Reed-Solomon (RS) encoder and subsequently 3B2T mapped into a transmit RS frame of PAM3 symbols.

Cl **97** *SC* **97.3.2.2** *P* **32** *L* **3** # 55

McClellan, Brett Marvell

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

Current text contains TBD and the statement about transmit power is not correct.

SuggestedRemedy

Change text from:
"These codes are used for training mode and only transmit the values {–TBD, TBD} to keep the transmit power in the training mode the same as the transmit power in normal mode."
to:
"These codes are used for training mode and only transmit the values {–1, +1}."

Response *Response Status* **C**

ACCEPT.

Cl **97** *SC* **97.3.2.2** *P* **32** *L* **7** # 119

Brett McClellan Marvell

Comment Type **T** *Comment Status* **A** *Post-Deadline*

Leftover text from Clause 55 THP.

SuggestedRemedy

delete " and makes requests for remote transmitter settings"

Response *Response Status* **C**

ACCEPT.

Cl **97** *SC* **97.3.2.2.1** *P* **32** *L* **11** # 84

Regev, Alon Ixia

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

"a 81B-RS" should be "an 81B-RS".

Note that this occurs multiple times in this document (not just on page 32, line 11). This comment is intended to cover all occurances.

SuggestedRemedy

change "a 81B-RS" to "an 81B-RS"

Response *Response Status* **C**

ACCEPT.

Make all changes in the document as needed

Cl **97** *SC* **97.3.2.2.11** *P* **38** *L* **50** # 112

Lo, William Marvell Semiconducto

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

Replace fixed reserve bits with OAM9 symbol.

SuggestedRemedy

Change following text:
corresponding 9 reserved bits (Tentatively 111 101 010listed MSB to LSB)
to:
OAM9 symbol

Response *Response Status* **C**

ACCEPT.

Cl **97** *SC* **97.3.2.2.11** *P* **38** *L* **50** # 57

McClellan, Brett Marvell

Comment Type **T** *Comment Status* **D** *Missing presentation*

"followed by the corresponding 9 reserved bits (Tentatively 111 101 010 listed MSB to LSB)"
The task force approved the use of the 9 reserve bits for OAM.
We will present a proposal for an OAM specification using the 9 reserve bits.

SuggestedRemedy

Refer to presentation

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **97** *SC* **97.3.2.2.13** *P* **39** *L* **42** # 72

McClellan, Brett Marvell

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

Redundant text.

SuggestedRemedy

change: "Every 9-bit symbol is divided into three 3-bit groups with the LSB bits as the first group. Each 3-bit group then mapped by the 3B2T into 2 PAM3 symbols.The mapping of 3B2T to PAM3 is illustrated in Table 97–2. B[0] is the LSB and T[0] is the first PAM3 symbol transmitted.
The 3B2T mapper generates 2700 PAM3 symbols per RS frame that are sent to the PMA via PMA_UNITDATA.request. The mapping of 3B2T to PAM3 is illustrated in Table 97–2."
to: "The 3B2T mapper generates 2700 PAM3 symbols per RS frame that are sent to the PMA via PMA_UNITDATA.request. Every 9-bit symbol is divided into three 3-bit groups with the LSB bits as the first group. Each 3-bit group
then mapped by the 3B2T into 2 PAM3 symbols.The mapping of 3B2T to PAM3 is illustrated in Table 97–2. B[0] is the LSB and T[0] is the first PAM3 symbol transmitted."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

This sentence appears twice in the current text: “The mapping of 3B2T to PAM3 is illustrated in Table 97–2.” The second occurrence is deleted. The last sentence was moved to the top. Also we need to add “is” in this sentence: “Each 3-bit group [is] then mapped by the 3B2T into 2 PAM3 symbols.”

Final text to be implemented is follows:

"The 3B2T mapper generates 2700 PAM3 symbols per RS frame that are sent to the PMA via PMA_UNITDATA.request. Every 9-bit symbol is divided into three 3-bit groups with the LSB bits as the first group. Each 3-bit group is then mapped by the 3B2T into 2 PAM3 symbols. The mapping of 3B2T to PAM3 is illustrated in Table 97–2. B[0] is the LSB and T[0] is the first PAM3 symbol transmitted.”

Cl **97** *SC* **97.3.2.2.4** *P* **32** *L* **48** # 113

Lo, William Marvell Semiconducto

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

Need to describe OAM9 symbol transmission order

SuggestedRemedy

Add following sentence to end of the paragraph:
The LSB of the OAM9 symbol is transmitted first.

Response *Response Status* **C**

ACCEPT.

Cl **97** *SC* **97.3.2.2.5** *P* **34** *L* **1** # 74

Zebralla, Daniel Continental Automotiv

Comment Type **ER** *Comment Status* **A**

In "Figure 97–3—PCS Receive bit ordering" the flow of data is in the wrong direction for the lines from 3B2T demapper to the circled plus-sign inside the circle and from the circled plus-sign inside the circle to rx RSC<43>.

SuggestedRemedy

Invert the direction of the arrows from 3B2T demapper to circled plus-sign and from circled plus-sign to rx RSC<43> in "Figure 97–3—PCS Receive bit ordering".

Response *Response Status* **C**

ACCEPT.

Note: this is a technical comment!

Cl **97** *SC* **97.3.2.2.5** *P* **35** *L* **24** # 85

Regev, Alon Ixia

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

in figure 97-4, in the rightmost bottom blocks (correstponding to the final set of ternary PAM3 symbols), the range of symbols shown is 2436...4049. It should be 2436...2699

SuggestedRemedy

Change 4049 to 2699 in the rightmost bottom block of Figure 97-4.

Response *Response Status* **C**

ACCEPT.

Cl **97** *SC* **97.3.2.2.5** *P* **35** *L* **7** # 114

Lo, William Marvell Semiconducto

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

Fix OAM label in figure 97-4 since OAM is being defined and field is not fixed.

SuggestedRemedy

Remove:
fixed 010101111
OAM should be OAM9 for consistency with other diagrams

Response *Response Status* **C**

ACCEPT.

Remove: "fixed 010101111"
Change "OAM" to "OAM9" in Figure 97-4

Cl **97** *SC* **97.3.2.2.7** *P* **36** *L* **48** # 101

Lo, William Marvell Semiconducto

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

The self-synchronizing scrambler is replaced with fixed scrambler.
Error will not propagate.

SuggestedRemedy

Delete the following clause:
or the first 80B/81B block following an invalid received RS frame to account for self-synchronizing scrambler error propagation.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #116

Cl **97** *SC* **97.3.2.2.7** *P* **36** *L* **48** # 56

McClellan, Brett Marvell

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

The additional 81B block is not invalid because the PHY now uses a side-stream scrambler. There is not error propogation.

SuggestedRemedy

change:"The RS block contains the payload of an uncorrectable received RS frame or the first 80B/81B block following an invalid received RS frame to account for self-synchronizing scrambler error propagation."
to:
"The RS block contains the payload of an uncorrectable received RS frame."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #116

Cl **97** *SC* **97.3.2.2.7** *P* **37** *L* **1** # 102

Lo, William Marvell Semiconducto

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

Table 97-1
No concept of carrier extend in full duplex

SuggestedRemedy

Delete the 3 rows in the middle
Carrier Extend
Carrier Extend Error
Reserves

Response *Response Status* **C**

ACCEPT.

Cl **97** *SC* **97.3.2.2.8** *P* **37** *L* **24** # 86

Regev, Alon Ixia

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

extra space in front of comma in "When deleting , the first four Idles"

SuggestedRemedy

Remove the extra space before the comma.

Response *Response Status* **C**

ACCEPT.

Cl **97** *SC* **97.3.2.3** *P* **40** *L* **35** # 58

McClellan, Brett Marvell

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

alignment is determined during PMA training.

SuggestedRemedy

change:"The PCS receiver uses knowledge of the encoding rules to correctly align the 81B-RS frames."
to: "The PCS receiver uses knowledge of the PMA training alignment to correctly align the 81B-RS frames."

Response *Response Status* **C**

ACCEPT.

Cl **97** *SC* **97.3.2.3** *P* **41** *L* **2** # 59
McClellan, Brett Marvell

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

Motion 5 in the November meeting defined the 1 bit pattern every 180 symbols.

SuggestedRemedy

change:"The PMA training sequence includes 1 bit pattern on pair A every TBD PAM2 symbols, which is aligned with the PCS Partial RS frame boundary."
to:"The PMA training sequence includes 1 bit pattern every 180 PAM2 symbols, which is aligned with the PCS Partial RS frame boundary."

Response *Response Status* **C**

ACCEPT.

Cl **97** *SC* **97.3.3** *P* **41** *L* **28** # 60
McClellan, Brett Marvell

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

The scrambler is not self-synchronizing.

SuggestedRemedy

change:"After acquiring the self-synchronizing scrambler state, the output of the received scrambled values should ideally be zero."
to:"The output of the received descrambled values should ideally be zero."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

change:"After acquiring the self-synchronizing scrambler state, the output of the received scrambled values should ideally be zero."

to:"The output of the received descrambled values should be zero."

Cl **97** *SC* **97.3.4** *P* **41** *L* **34** # 73
McClellan, Brett Marvell

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

Propose to accept the described 33-bit training LFSR.

SuggestedRemedy

I will present a proposal for PMA training scrambler text and figure.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Use the following
http://www.ieee802.org/3/bp/public/jan15/mcclellan_3bp_01_0115.pdf

Change SCR32 to SCR0 on page 2 in equation (3 locations total)

Cl **97** *SC* **97.3.5.4** *P* **46** *L* **10** # 61
McClellan, Brett Marvell

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

use arrow symbol instead of "<="

SuggestedRemedy

change:"<=" to arrow symbol

Response *Response Status* **C**

ACCEPT.
The whole state diagram will be redrawn for next draft

Cl **97** *SC* **97.3.5.4** *P* **47** *L* **1** # 53
McClellan, Brett Marvell

Comment Type **T** *Comment Status* **A** *Keep Open*

PCS transmit and receive state diagrams need update for EEE support.

SuggestedRemedy

I will present a proposal for updated figures.

Response *Response Status* **C**

ACCEPT.
Use state machines from
http://www.ieee802.org/3/bp/public/jan15/McClellan_3bp_04_0115.pdf, pages 5, 6, and 7.

Cl **97** *SC* **97.4** *P* **52** *L* **10** # 54
McClellan, Brett Marvell

Comment Type **T** *Comment Status* **A** *Keep Open*

Need text for PMA

SuggestedRemedy

I will present a proposal for baseline text.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Use mcclellan_3bp_03a_0115.pdf.

Cl **98** *SC* **97.5.5** *P* **91** *L* **26** # 120

Brett McClellan Marvell

Comment Type **E** *Comment Status* **A** *Post-Deadline*

Figure is missing a label.

SuggestedRemedy

Add "Figure 97-14 Arbitration state diagram"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Comment is against 98.5.5
Add "Figure 98-14 Arbitration state diagram"

Cl **98** *SC* **98.2.1.1.1** *P* **67** *L* **50** # 87

Regev, Alon Ixia

Comment Type **T** *Comment Status* **A** *Keep Open*

The number of transition positions is stated as TBD (Tentatively 164 = 32 + 128 + 6).
There are a couple of problems here:
1. 32 + 128 + 6 is equal to 166 (not 164).
2. In the definitions below in section 98.2.1.1.1, only 26 transition positions are used for the sync header, 128 for the page data & CRC, and 6 for the Manchester violation delimiter (meaning only 160 = 26 + 128 + 6) transition positions are defined.

SuggestedRemedy

Replace "TBD (Tentatively 164 = 32 + 128 + 6)" with "160 (= 26 + 128 + 6)"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Currently a DME page is 26 half-bits for Golay head delimiter, 48 bits payload, 16 bits CRC16, and 6 half-bits for end delimiter

Replace "TBD (Tentatively 164 = 32 + 128 + 6)" with "157"

Cl **98** *SC* **98.2.1.1.1** *P* **68** *L* **44** # 88

Regev, Alon Ixia

Comment Type **E** *Comment Status* **A** *Keep Open*

Figure 98-3 has a couple of unclear items:
1. The input states "Oct5 through Oct14". In all other parts of this subclause, we refer to the data in terms of transition positions, not octets. Also, it is not clear if the Octet count is zero or one based.
2. The CRCGen vs. CRCout switch is not clear as to its value in the CRCout state.

SuggestedRemedy

1. Replace "Oct5 through Oct14" with "Auto Negotiation Page Data". The description of the translation present or absent even bit positions to data bits is already present in text (and in Figure 98-5) so it does not need to appear in this figure (Figure 98-3).

2. Show the CRCgen vs. CRCout swithc as a multiplexer (or relay) that had a "0" input in the CRCout state and the input from the XOR below in the CRCgen state.

Response *Response Status* **C**

ACCEPT.

Implement the first change per comment.
For the second change, use file at
http://www.ieee802.org/3/bp/public/jan15/IEEE%20802.3bp%20-%20Jan2015%20-%20proposed%20changes%20to%20Figure%2098-3.pptx

Cl **98** *SC* **98.2.1.1.1** *P* **68** *L* **6** # 91

Regev, Alon Ixia

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

The list of transitions on page 68, line 6 does not match the sequence shown in subclause 98.2.1.1.3 (page 70, line 48). Specifically, an additional transition at bit position 8 is shown on page 70.

SuggestedRemedy

Correct "2, 3, 5, 7, 12, 13, 14, 15, 19, 21, 24, 25, 26" to "2, 3, 5, 7, 8, 12, 13, 14, 15, 19, 21, 24, 25, 26"

Response *Response Status* **C**

ACCEPT.

Cl **98** *SC* **98.2.1.1.1** *P* **68** *L* **9** # 123

Regev, Alon Ixia

Comment Type **TR** *Comment Status* **A** *Post-Deadline; Keep Open*

Tansition position 153 is actually the start of data position D63. I believe that the ending manchester violation transitions should be at locations 155 and 158 and the transition to quiet should be at bit position 161 (after the 160 bits have been transmitted"

SuggestedRemedy

Change
"The ending Manchester violation contains transitions at positions TBD (Tentatively 153 and 156) and no transitions at the remaining positions. Position TBD (tentatively 159) contains a transition from active to quiet."

To
"The ending Manchester violation contains transitions at positions 155 and 158 and no transitions at the remaining positions. Position 161 contains a transition from active to quiet."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change
"The ending Manchester violation contains transitions at positions TBD (Tentatively 153 and 156) and no transitions at the remaining positions. Position TBD (tentatively 159) contains a transition from active to quiet."

To
The final 3 transition positions contain the ending Manchester violation delimiter, which marks the end of the page. The ending Manchester violation contains a transition at position 155 and no transitions at the remaining positions. Position 158 contains a transition from active to quiet.

Cl **98** *SC* **98.2.1.1.2** *P* **70** *L* **26** # 89

Regev, Alon Ixia

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

The minimum T1 period is specified as 30.997. This should be 29.997.

SuggestedRemedy

Replace "30.997" with "29.997".

Response *Response Status* **C**

ACCEPT.

Note: this is a technical comment!

Cl **98** *SC* **98.2.1.1.2** *P* **70** *L* **28** # 90

Regev, Alon Ixia

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

In Section 98.2.1.1.2 on page 69, line 48, it is defined that "Transitions shall occur within +/- 0.8 ns of their ideal positions). This implies that T2 and T3 can be off by 2 x 0.8 ns from the ideal (as one transition could be off by 0.8 ns in one direction and the other transition could be off by 0.8 ns in the other direction).

In Figure 98-1, The Min and Max values for T2 and T3 are effectively +/- 1ns. I believe these should be +/- 1.6 ns to be in compliance with the "Transitions shall occur withing +/- 0.8 ns of their ideal conditions" statememt).

SuggestedRemedy

For T2, change the Min to "58.4" ns and the max to "61.6" ns.
For T3, change the Min to "28.4" ns and the max to "31.6" ns.

Response *Response Status* **C**

ACCEPT.

Cl **98** *SC* **98.2.1.1.3** *P* **71** *L* **6** # 62

McClellan, Brett Marvell

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

The sync header is 26-bit not 32 bit.

SuggestedRemedy

change 32 to 26

Response *Response Status* **C**

ACCEPT.

Cl **98** *SC* **98.2.1.1.3** *P* **71** *L* **6** # 92

Regev, Alon Ixia

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

The timing diagram shows "32-bit PRBS", but we don't tansmit 32-bit PRBS data. We transmit a sync header (with a random polarity determined by an 8 bit pseudo-random number generator).

SuggestedRemedy

Replace the "32-bit PRBS text" with an actual timing diagram of the sync header.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use file: http://www.ieee802.org/3/bp/public/jan15/Lo_3bp_05_0115.pdf, page 6 for final diagram.

Note: This is a technical comment!

Cl **98** *SC* **98.2.1.2** *P* **71** *L* **39** # 63

McClellan, Brett Marvell

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

fix reference

SuggestedRemedy

change TBD to 98.2.1.2.5

Response *Response Status* **C**

ACCEPT.

Cl **98** *SC* **98.2.1.2.1** *P* **71** *L* **46** # 64

McClellan, Brett Marvell

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

fix reference

SuggestedRemedy

change 28A to 98A

Response *Response Status* **C**

ACCEPT.

Cl **98** *SC* **98.2.1.2.3** *P* **72** *L* **20** # 65

McClellan, Brett Marvell

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

fix exponent typo

SuggestedRemedy

change:"0 to 24 – 1" to "0 to 2^4 – 1"

Response *Response Status* **C**

ACCEPT.

Note: this is a technical comment!

Cl **98** *SC* **98.2.1.2.3** *P* **72** *L* **21** # 93

Regev, Alon Ixia

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

The draft states that "The lower 4 bits of the transmitted nonce should have a uniform distribution in the range from 0 to 24 – 1". As there are only 4 bits, I think the range should be "0 to 16 - 1".

SuggestedRemedy

Change "24 - 1" to "16 - 1"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #65

Cl **98** *SC* **98.2.1.2.4** *P* **72** *L* **39** # 66

McClellan, Brett Marvell

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

fix reference

SuggestedRemedy

change 98B.2 to 98B.3

Response *Response Status* **C**

ACCEPT.

Cl **98** *SC* **98.2.1.2.5** *P* **73** *L* **1** # 67
McClellan, Brett Marvell

Comment Type **E** *Comment Status* **A**
fix typos in table 98-3

SuggestedRemedy
change:"Selector Field Encoding" to "Master Slave Configuration"
change "Configuration Default" to "Configuration Fault"

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

Note: this is a technical comment!

Cl **98** *SC* **98.2.4.3.1** *P* **77** *L* **14** # 68
McClellan, Brett Marvell

Comment Type **E** *Comment Status* **A**
fix figure 98-10 title

SuggestedRemedy
change "Message Next Page" to "Unformatted Next Page"

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

Note: this is a technical comment!

Cl **98** *SC* **98.5.1** *P* **78** *L* **5** # 94
Regev, Alon Ixia

Comment Type **E** *Comment Status* **A**
It is not clear that Table 98-4 maps stage diagram variables to MDIO registers. There is also no reference to this table in the text

SuggestedRemedy
Replace "Single Twisted Pair Auto-Negotiation register mapping" in the title of the table to "Single Twisted Pair Auto-Negotiation MDIO register mapping"

Change the column header labelesd "Description" to "Description / MDIO register mapping".

Add a reference from the text of section 98.5.1 to Table 98-4.

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

Note: this is a technical comment!

Potentially move table closer to where it is first referenced.

Cl **98** *SC* **98.5.1** *P* **79** *L* **16** # 69
McClellan, Brett Marvell

Comment Type **E** *Comment Status* **A**
fix enumeration

SuggestedRemedy
change a,a,a,..a to a,b,c,..

Response *Response Status* **C**
ACCEPT.
Wrong format of the lettered list

Cl **98** *SC* **98.5.1** *P* **79** *L* **7** # 121
Brett McClellan Marvell

Comment Type **E** *Comment Status* **A** *Post-Deadline*
missing definition.

SuggestedRemedy
Add "1GigT1; represents that the 1000BASE-T1 PMA is the signal source."

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

Note: this is a technical comment!

Cl **98** *SC* **98.5.2** *P* **85** *L* **31** # 111

Lo, William Marvell Semiconducto

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

backoff_timer needs adjustment based on latest baseline in November meeting.

SuggestedRemedy

backoff_timer
If T[4] bit is 1 then the timer duration is set as (6805 ns to 6925 ns) + (random integer from 0 to 15) x (2120 ns to 2240 ns).
If T[4] bit is 0 then the timer duration is set as (7895 ns to 8015 ns) + (random integer from 0 to 15) x (2120 ns to 2240 ns (TBD)).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change applies to lines 35-38 only

backoff_timer
If T[4] bit is 1 then the timer duration is set as (6805 ns to 6925 ns) + (random integer from 0 to 15) x (2120 ns to 2240 ns).
If T[4] bit is 0 then the timer duration is set as (7895 ns to 8015 ns) + (random integer from 0 to 15) x (2120 ns to 2240 ns).

Cl **98** *SC* **98.5.2** *P* **85** *L* **31** # 103

Lo, William Marvell Semiconducto

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

The timers in this section needs adjustment based on latest baseline in November meeting.

SuggestedRemedy

Timer	min	max	units
blind_timer	2000	2120	ns
break_link_timer	300	305	us
clock_detect_max_timer	63	75	ns
clock_detect_min_timer	45	57	ns
data_detect_max_timer	33	45	ns
data_detect_min_timer	15	27	ns
link_fail_inhibit_timer	97	98	ms
receive_DME_timer	6805	6925	ns
silent_timer	2120	2240	ns

Response *Response Status* **C**

ACCEPT.
Change min and max values in all timers defined in 98.5.2, per suggested remedy.

Cl **98** *SC* **98.5.2** *P* **85** *L* **32** # 98

Regev, Alon Ixia

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

We have seen in previous PHY implementations conditions where once a collission occurs, collisions keep on occuring as the both link partners have the same pseudo-random number generator and they are "aligned" such that both link partners chooset the same random number each time.

SuggestedRemedy

Add requirements for the random number generator:
1. The random number should be generated using either a true random number generator (not pseudo-rnadom) or using a pseudo-random number generator with a sequence that repeats no more often than every 100,000 cycles.
2. The random number generator should be free running based rather than having the random gnenerator update just once per backoff.

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **98** *SC* **98.5.2** *P* **86** *L* **30** # 104

Lo, William Marvell Semiconducto

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

page_test_max_timeris missing

SuggestedRemedy

page_test_max_timer
Timer for the maximum time between detection of start and end delimiters. The page_test_max_timer shall expire 4800 ns to 4920 ns after being started or restarted.

Response *Response Status* **C**

ACCEPT.
Insert the definition of the page_test_max_timer in alphabetic order

Cl **98** *SC* **98.5.3** *P* **87** *L* **51** # 99

Regev, Alon Ixia

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

rx_bit_cnt is defined as having values between 0 and 65, but the description also states that the counter does not inrement beyond 64.

SuggestedRemedy

change "integer values from 0 to 65" to "integer values from 0 to 64"

Response *Response Status* **C**

ACCEPT.

Note: this is a technical comment!
This comment is against page 86

Cl **98** *SC* **98.5.5** *P* **88** *L* **1** # 105

Lo, William Marvell Semiconducto

Comment Type **ER** *Comment Status* **A**

Figure 98-11 - remove underlines

SuggestedRemedy

Figure 98-11 - remove underlines

Response *Response Status* **C**

ACCEPT.

Cl **98** *SC* **98.5.5** *P* **88** *L* **5** # 70

McClellan, Brett Marvell

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

underlines not required in the figure

SuggestedRemedy

remove underlines

Response *Response Status* **C**

ACCEPT.

Cl **98** *SC* **98.5.5** *P* **89** *L* **14** # 122

Brett McClellan Marvell

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

There is a possible lockup condition in state DELIMITER WAIT.

SuggestedRemedy

Add a transition to IDLE. I will present an update state diagram.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use updated state diagram from http://www.ieee802.org/3/bp/public/jan15/McClellan_3bp_05_0115.pdf, page 2. This adds a transition to IDLE with the condition rx_wait_timer_done.

Add the definition of the new timer:

rx_wait_timer
Timer for the maximum time between detection of DME pages. This timer is used to detect whether the link partner is transmitting DME pages. The rx_wait_timer shall expire 100 us to 105 us after being started or restarted.

Cl **98** *SC* **989.5.1** *P* **80** *L* **1** # 97

Regev, Alon Ixia

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

Extra "|" character after end of line 1.

SuggestedRemedy

Remove the extra "|" character.

Response *Response Status* **C**

ACCEPT.

Cl **98B** *SC* **98B.3** *P* **101** *L* **46** # 106

Lo, William Marvell Semiconducto

Comment Type **ER** *Comment Status* **A**

100BASE-T1 EEE does not exist - remove

SuggestedRemedy

Keep bit A1 reserved but remove phrase
for 100BASE-T1 EEE ability

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "RESERVED for 100BASE-T1 EEE ability" to "RESERVED"

Cl **98B** *SC* **98B.3** *P* **101** *L* **50** # 108

Lo, William Marvell Semiconducto

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

In the A3 bit - remove trailing -T1

SuggestedRemedy

1000BASE-T1 EEE ability

Response *Response Status* **C**

ACCEPT.

Change "1000BASE-T1 EEE ability -T1" to "1000BASE-T1 EEE ability"

Cl **98B** *SC* **98B.3** *P* **102** *L* **7** # 107

Lo, William Marvell Semiconducto

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

Missing 1000BASE-T1 EEE in priority resolution

SuggestedRemedy

1000BASE-T1 EEE
1000BASE-T1
100BASE-T1

Response *Response Status* **C**

ACCEPT.

Change

1000BASE-T1
100BASE-T1

to

1000BASE-T1 EEE
1000BASE-T1
100BASE-T1

Cl **99** *SC* **Table of Contents** *P* **10** *L* **49** # 95

Regev, Alon Ixia

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

In the table of comments, 5th level headings do not have a space between the heading number and the heading title. This is especially confusing when the title begins with a number. For example, The ToC line for "97.3.2.2.2" looks like "97.3.2.2.281B-RS transmission code"

SuggestedRemedy

Add space between the heading number and heading title in the ToC for hading level 5 and higher.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Template cannot be modified. Editor will work with Chief Editor for 802.3 to confirm templare can be updated with extra space.

Cl **99** *SC* **Table of Contents** *P* **11** *L* **15** # 96

Regev, Alon Ixia

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

In the ToC entry for 97.3.4.2, the "n" in "TAn" should be a subscript (this is correct in actual title for 97.3.4.2, but is wrong in the table of contects)

SuggestedRemedy

make the "n" in the TAn a subscript.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
All changes to TOC done manually will be lost next time TOC is regenerated - this is a limitation of FrameMaker.
Try to add a forced space at the end of the heading title to enforce no subscript.

Cl **99** *SC* **ToC** *P* **11** *L* **14** # 80

Regev, Alon Ixia

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

On the ToC line containing "97.3.4.1 Generation of San", the page number (42) and the leading dots are in subscript. While the "n" should be in subscript, the rest of the line should not be

SuggestedRemedy

make the page number and leading dots be in normal script rather than subscript.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
All changes to TOC done manually will be lost next time TOC is regenerated - this is a limitation of FrameMaker.
Try to add a forced space at the end of the heading title to enforce no subscript.

Cl **99** *SC* **ToC** *P* **13** *L* **10** # 81

Regev, Alon Ixia

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

In the table of contents, when the title of a subclause extneds beyond 1 line, the alignment of the second (and beyond) lines is not correct. Also, the page number does not align with other page numbers

SuggestedRemedy

Change the formatting of table of contents entries such that if a title extends beyond 1 line, the text is aligned and the page number aligns with the page number column.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
All changes to TOC done manually will be lost next time TOC is regenerated - this is a limitation of FrameMaker.