Cl **28** *SC* **28B** *P* **28B-1** *L* **17-18** # **68**

Rich Seifert Networks and Commu

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

The change to this paragraph has caused the original to lose some of its meaning, and should be restored (modified as indicated).

SuggestedRemedy

"Setting Bit A5, A6 or both indicates that the DTE has implemented both the optional MAC Control sublayer and the PAUSE function as specified in Clause 31 and Annex 31B. This capability is significant only when the link is configured for full-duplex operation, regardless of data rate and medium. The encoding of Bits A5 and A6 are specified in Table 28B-2."

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Please see the new text of Clause 28B.

Cl **28** *SC* **28B.2** *P* **28B-1** *L* **33-35** # **69**

Rich Seifert Networks and Commu

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

The wording does not properly reflect the full behavior of the bits. There are also some typographical errors in the text.

SuggestedRemedy

Change the first three sentences of the paragraph to read:
"The PAUSE bit indicates that the device is capable of using the PAUSE function as defined in clause 31 in a symmetrical manner. The ASM_DIR bit indicates that asymmetric PAUSE operation is possible, and will be used if appropriate. The value of the PAUSE bit when the ASM_DIR bit is set indicates the direction that PAUSE frames are desired to flow across the link."

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.
Please see the new text of Clause 28B.

Cl **28** *SC* **28B.3** *P* **29B-2** *L* **17** # **70**

Rich Seifert Networks and Commu

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

Additional changes are needed to this paragraph beyond what is indicated.

SuggestedRemedy

In addition to the instructions presented in the draft:
Change "... (as indicated by bit A5) " to "...as indicated by bits A5 and A6 . . .".

Change "The setting of this bit indicates …" to "The setting of these bits indicate... ".

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.
Please see the new text of Clause 28B.

Cl **28B** *SC* **28B.2** *P* **28B-1** *L* **33** # **150**

Bob Grow XLNT

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

The paragraph is not correct.

Typo "connec5tion" on line 34, "riection" on line 35.

Of technical significance, the ASM_DIR bit indicates PAUSE is supported, not desired. (Perhaps an early 802.3z draft was used for the original text.)

SuggestedRemedy

Use the text from and make consistent with the approved 37.2.1.4.

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.
Please see the new text of Clause 28B.

Cl **28B** *SC* **28B.2** *P* **28B-2** *L* **33** # **151**

Bob Grow XLNT

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

The next to last row of Table 28B-3 is wrong.

SuggestedRemedy

Local Resolution should read:
Enable PAUSE receive
Disable PAUSE transmit
Link Partner Resolution should read:
Enable PAUSE transmit
Disable PAUSE receive

Proposed Response *Response Status* **U**

ACCEPT.

Cl **40** *SC* **40.1** *P* **40-1** *L* **1** # **298**

Howard Frazier — Cisco Systems, Inc.

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

Based on my limited knowledge of digital signal processing and local area networking, I agreewith the technical choices that have been made by 802.3ab to this point.

However, I am deeply concerned about the lack of existence proofs. There are no existing systems which operate in this environment and at these speeds, with similar objectives. I believe that the "Technical Feasibility" criteria has not be adequately met at this point.

Note that for each of the successful standards that have been produced in 802.3, existence proofs have been available at this stage of the standards development process, including the original coax based system, 10BASE-T, 100BASE-X, and 1000BASE-X. In spite of the availibilty of prototypes (and even early product), technical flaws can be found in the standard fairly late in the game (e.g. DMD). Without any prototypes or test beds, I believe that too many problems will go undiscovered, and unaddressed.

SuggestedRemedy

Before I can convert my ballot to Approve w/ Comments, I need to witness a demonstration of 1000BASE-T signalling over 100 meters of worst case cabling. I will need objective proof that the BER objective can be met, in the worst case environment.

Simulations are a wonderful thing, and I use them all the time, but they can not reproduce all of the real world conditions, and they are only as good as the accuracy of the model, and the completeness of the stimulus.

Proposed Response *Response Status* **U**

REJECT.

Technical feasibility does not imply a requirement for a working prototype.

The electronics industry has reached the point where electronic design, simulation and systhesis tools have reached a high level of sophistication and are routinely used. The complexity of products like as the 1000BASE-T chip is such that production of physical prototypes comes very late in the process--after the device has been designed and debugged electronically.

Acceptance of this comment could set a prededent that will affect all future IEEE802 standards work. The issue of when a working prototype must be available should not be made lightly; it should be made by a constituency that is broader than an interim task force meeting. The intent of this rejection is to push a decision on this issue to the 802.3 Working Group.

Cl **40** *SC* **40.1** *P* **40-1** *L* **24** # **381**

John Payne — JLP Associates

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

Previous standards have referneced only available cabling standards (for example, cat-3 or cat-4). There is no need to add "or better". This could lead to confusion. The working group PAR was for cat-5.

SuggestedRemedy

Remove " or cabling with better transfer characteristics that cat-5"

Also remove on 40.1.2. line 44

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Change text to read:-

1000BASE-T is designed to operate over 4-pair twisted pair cabling systems that meet both the category 5 requirements described in ISO/IEC 11801:1995, ANSI/TIA/EIA-568-A and the additional transmission parameters specified in clause 40.7.

In addition search and remove "or better" (per editor's judgement) elsewhere in the document.

Cl **40** *SC* **40.1** *P* **40.1** *L* **24** # **303**

Geoff Thompson — Bay Networks

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

The phrase ""...to ANSI/EIA/TIA-568-A as specified in 40.7"" is not correct. There is no statement in 40.7 that can be used as a compliance statement. The only references to 568 are in footnotes which are not part of the standard.

SuggestedRemedy

You have to go to EIA in 40.7 or to 11801 here."

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See 381

Cl **40** *SC* **40.1** *P* **40-1** *L* **42** # **73**

Rich Seifert Networks and Commu

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

A BER is specified with no environment. It is meaningless to discuss BER without specifying the signal/noise ratio under which the measurement is made.

SuggestedRemedy

Either specify a noise environment (preferred) or delete the BER specification.

Proposed Response *Response Status* **U**

REJECT.

The BER figure in line 42 is an objective, not a specification. Specification is provided in 40.6.1.3.4.

Cl **40** *SC* **40.1** *P* **40-1** *L* **42** # **155**

Edward S. Chang Unisys Corporation

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

The Bit Error Rate of 10^-10 is not adequate.
Reasons:

1. At 1.25 Gbps maximum through put, every 8.3 second there is an error. By over-simplifying the issue to have a feeling in the real operation, it means that the CRT screen will fliker or interupted every 8.3 second.. I do not think user will accept that as a high performance LAN. The BER should be improved to 10^-12.

2. The IEEE 802.3z D5 , 1000BASE-SX, LX, CX specifications require BER of 10^-12 which is mentioned again and agin in many palces in this document; for example, clause 38.3.2, page 38-6, line 30 mentions BER of 10^-12. All 1000BASE-XX optins (including 1000BASE-T) are the same one interoerable products with variety of media options. However, with differrent BERs of 10^-10 and 10^-12, they will not be interoperable. As a result, the BER of 802.3ab should be corrected to 10^-12. In addition, all other standards have the same BER for a famnily of options with the same bit rate.

3. The theoretical through put analysis proved that while the bit rate increases, the BER also has to improve to maintain the advantage from the higher bit rate. Otherwise, the cost spent on the higher data rate improvement will be negated by every RE-TRY (it takes a long time) caused by a read error. As a result, the BER should be improved to 10^-12.

Reference for BER improvement : "Bit Error Rate of 10^-12 for 622 Mbps is Necessary and Cost-Effective" , ATM_Forum/95-0024, Edward S. Chang, Unisys Corporation, February 6, 1995.

SuggestedRemedy

At page 40-1, line 42, delete "10^-10" and replace it with "10^-12".

Proposed Response *Response Status* **U**

REJECT.

The BER of 10^-10 is what is in the project approval documents.
The expected BER will be significantly better.
We believe that your assertion that you cannot mix links of different BERs is flawed.
Traditionally the error rate objective for fiber has been more stringent than that of twisted pair.

Cl **40** *SC* **40.1.2** *P* *L* **2** # **427**

John Payne

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

40-3 does not illustrate loop timing. Seems like this reference is wrong?

SuggestedRemedy

Proposed Response *Response Status* **U**

ACCEPT.

See response to comment 271.

Cl **40** *SC* **40.1.2** *P* **40.3** *L* **2** # **307**

Geoff Thompson Bay Networks

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

There is no obvious illustration of loop timing in figure 40-3

SuggestedRemedy

"

Proposed Response *Response Status* **C**

ACCEPT.

See response to comment 271.

Cl **40** *SC* **40.1.2** *P* *L* **40/41** # **424**

John Payne

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

The way Idle mode works is discussed without an introduction to what it is and why it is needed.

SuggestedRemedy

Add the following. 1000Base-T uses a continuous signaling system. In the absence of data, Idle symbols are transmitted.

Proposed Response *Response Status* **U**

ACCEPT.

Cl **40** *SC* **40.1.2** *P* **40.2** *L* **44** # **305**

Geoff Thompson Bay Networks

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

The actual requirements in 40.7 are for 11801 not 568

SuggestedRemedy

Change to 11801+??"

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change to :

ISO/IEC 11801:1995 and the additional transmission parameters specified in clause 40.7

Cl **40** *SC* **40.1.2** *P* *L* **45-48** # **425**

John Payne

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

These two sentences are confusing - its not clear what you are trying to say

SuggestedRemedy

Proposed Response *Response Status* **U**

ACCEPT.

Delete lines 45 to 48, the last two sentences of clause 40.1.2

Cl **40** *SC* **40.1.2, general** *P* **40-3, others** *L* **3** # **77**

Rich Seifert Networks and Commu

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

First, there is no such device as a "repeater/bridge" defined in any standard. There are repeaters and bridges, but no specification for a combined device. In addition, since a bridge IS A DTE, the statement that the "repeater/bridge" is set to MASTER and the DTE is set to slave is ambiguous.
This is a global comment. The term "repeater/bridge" is used in many places in the document. Specifically, see Table 40-8 on page 40-66.

SuggestedRemedy

Eliminate the term "repeater/bridge". If absolutely necessary, define a term (such as "hub") to replace it, but it is important to realize that a "bridge hub" is a DTE, so it cannot readily be distinguished from an end-station DTE (except through management).

I recommend that the whole issue of which end would normally be assigned "MASTER" vs. "SLAVE" be relegated to a subclause on configuration and topology, and removed from the specification of the behavior and negotiation of master vs. slave. It is not a strict requirement that the hub be the master; this is simply a convenient implementation.

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Change text to read:-

"In a multi-port to single-port connection the multi-port device is typically set to be MASTER and the single-port device is set to be SLAVE."

In addition globally repeater/bridge -> multi-port device, DTE -> single-port device as required.

Cl **40** *SC* **40.1.2.1** *P* **Fig 40-3** *L* **2** # **429**

John Payne

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

"Management interface has pervasive ....." is not very helpful.
Add the register set.

SuggestedRemedy

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Will show a block marked regsiter set. Will mark this as having pervasive connections to all blocks. Will not show these connections as this is not appropriate in an overview and would reduce clarity significantly.

Cl **40** *SC* **40.1.2.1** *P* *L* **5/6** # **428**

John Payne

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

You have introduced the idea that a PHY may not be operating reliably without mentioning what information conveys this.
Need to explain

SuggestedRemedy

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Add text at end of sentence, "(see 40.2.2.3.1and 40.3.1.3.4)"

It is noted that there was no remedial text provided. There is no specification provided in this subclause, the specification is provided elsewhere.The comment is downgraded to editorial.

Cl **40** *SC* **40.1.2.3** *P* **40-6** *L* **17-31** # **82**

Rich Seifert Networks and Commu

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

I believe that it would be much simpler (and clearer) if you made the PHY Control a sublayer. For some reason you have tried to make it some set of functions, either within the PCS or within some unnamed entity (this is not clear), yet you have defined a service interface to PHY Control. There is no need for a service interface to a logical block that is not a sublayer; indeed, abstract service interfaces are ONLY provided to layers and sublayers. For communication between logical blocks within a sublayer, the only need is for a set of signals that may be defined in the state diagrams.

SuggestedRemedy

Add a PHY Control sublayer to the 1000BASE-T architecture (preferred). Alternatively, keep it as a "logic block"PCS or PMA (if it is not a sublayer itself, there is NO OTHER CHOICE of where to put it), and (2) eliminate the PHY Control service interface.

If PHY Control is made a sublayer (and the Service Interface retained) be clear on how this sublayer interfaces to PCS and PMA, and the direction (sense) of the .indicate and .request primitives with respect to its client(s). For example, Figures 40-5 and 40-3 both appear to show PHY Control as logical "above" the PCS, yet the service interface has it providing "indications" to the PCS. Normally, indications are provided to the client, not to the service provider.

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

PHY Control will be moved into the PMA as a function.

Cl **40** *SC* **40.1.2.3** *P* *L* **23/27** # **431**

John Payne

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

last sentence.
Add " also send Idles in the absence of data"

SuggestedRemedy

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Change line 25 from

...state, enabling data tranmission over the link segment, or ..."

to read

"... enabling the transmission of data, idle or control code groups over the link segment."
(That is delete the rest of the sentence and the following sentence)

Cl **40** *SC* **40.1.4.1** *P* **40.7** *L* **11** # **310**

Geoff Thompson Bay Networks

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

In order to meet the requirments of this ""shall"" I will be required to test for ""compatibility"" with every other transceiver on the market. In addition, I don't know what compatible means.

SuggestedRemedy

Change the wording to something that is meaningful."

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Delete the first sentence of subclause 40.1.4.1.

Cl **40** *SC* **40.1.4.1** *P* **40-7** *L* **12-13** # **83**

Rich Seifert Networks and Commu

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

The GMII is optional.

SuggestedRemedy

Change "... MDI and GMII specifications ..." to "MDI (and GMII, if implemented) specifications ...".

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Change text to read:-

"MDI and GMII (if GMII implemented) specifications ...".

Cl **40** *SC* **40.1.4.2** *P* **40-7** *L* **15-21** # **84**

Rich Seifert Networks and Commu

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

Most of this subclause is unnecessary. In addition, it is applicable both to devices that integrate the PHY into a DTE as well as those that integrate a PHY into a repeater.

SuggestedRemedy

Delete the subclause. Add a second paragraph to 40.1.4.1 as follows:
“When the PHY is incorporated within the physical bounds of a DTE or repeater, implementation of the GMII is optional.”

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to comment 28.

Cl **40** *SC* **40.1.4.2** *P* **40.7** *L* **17** # **311**

Geoff Thompson Bay Networks

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

According to this conformance to the GMII is mandatory in a repeater.

SuggestedRemedy

Change ""DTE"" to ""DTE or repeater"""

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to comment 28.

Cl **40** *SC* **40.1.4.2** *P* **40-7** *L* **19** # **28**

Brad Booth Jato Technologies

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

Poor description of a GMII embodiment.

SuggestedRemedy

Replace sentence starting with "For example, an integrated PHY..." with the following: "If an explicit embodiment of the GMII is supported, the Control and Status registers to support the Auto-Negotiation function shall be implemented in accordance with the definitions in clause 22, 28 and 40.5."

Also, add a PICS entry.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

In addition to the text provided delete the existing first sentence of this subclause and change the title of the subclause to be "GMII Support"

Cl **40** *SC* **40.1.4.3** *P* **40-7** *L* **23-29** # **85**

Rich Seifert Networks and Commu

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

This subclause provides no new information. It discusses a topology issue that is already covered elsewhere in the standard.

SuggestedRemedy

Delete the entire subclause. If the Task Force chooses to keep this subclause, please note that the MAC is not specified in Clauses 1-4, it is only specified in Clause 4.

Proposed Response *Response Status* **U**

ACCEPT.

Cl **40** *SC* **40.1.4.4** *P* **40-7** *L* **33** # **86**

Rich Seifert Networks and Commu

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

There is no "partial" Auto-Negotiation defined in Clause 28

SuggestedRemedy

Delete the word "Full".

Proposed Response *Response Status* **U**

ACCEPT.

Cl **40** *SC* **40.10.4** *P* **40.103** *L* **26** # **321**

Geoff Thompson Bay Networks

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

The title of this sub-clause does not match up with the contents. The title states that it is a cabling specification yet the text and reference relates to equipment specifications. The intention here is quite unclear. Further

SuggestedRemedy

if this is intended to be a cabling spec it is far removed from the rest of the cabling specification in the draft (i.e. 40.7) and is therefore highly likely to be missed by those looking for cabling specs.

Proposed Response *Response Status* **C**

ACCEPT.
Change 40.10 "Environmental specifications" to "Environmental and Safety specifications"

Remove subclause 40.10.4 because 40.10 is not a cabling specification clause.

Change 40.10.3 "Environment" to "Operating Environment"

Cl **40** *SC* **40.12.1** *P* **40-105** *L* **19-32** # **137**

Walt Thirion Jato Technologies

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

Table 40-17 specifies delay constraints for TX_EN Sample to MDI output, but it doesn't specify similar constraints for TX_ER Sampled to MDI output.

The same comment applies to table 40-18.

SuggestedRemedy

Add appropriate delay constraints for TX_ER Sampled to MDI output.

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Comment about TX_ER is unnecessary because putting delay constraints on TX_ER is not functionally required.
However, in light of your comment, we will look at 36.5 and update 40.12 to correspond.

Cl **40** *SC* **40.2.2** *P* **40-9** *L* **44** # **60**

Brad Booth — Jato Technologies

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

Primitives are described for the PHY Control Service interface, but there is no diagram showing the flow or use of these primitives.

SuggestedRemedy

Generate a service interface diagram showing the primitives.

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

See response to comment 82.

Cl **40** *SC* **40.2.2.1** *P* **40-10** *L* **34** # **59**

Brad Booth — Jato Technologies

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

PHYC_CONFIG.indicate has misleading descriptions. In 40.2.2.1, it states that the value is determined by Auto-Negotiation and the result is provided to the PHY Control. In 40.2.2.1.2, it states that the PHY Control generates the message. In the state machine on page 40-14, config is an input signal, not an output signal.

SuggestedRemedy

Generate one primitive that is generated by the Auto-Negotiation state machine that indicates whether the PHY is MASTER or SLAVE.

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

See response to comment 82.

Cl **40** *SC* **40.2.2.4** *P* **40-11** *L* **44** # **157**

Linda Cheng — Sun Microsystems

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

The definitions of rem_rcvr_status in sections 40.2.2.4, 40.2.2.4.1, and 40.2.3 are too vague to be implementable: "correct operation", "reliable operation" and "operating reliably". Figure 40-3 states the signal shall be driven by the PCS Receive block. The signal is not defined by the Receive state diagram nor is it adequately defined in text.

SuggestedRemedy

In section 40.2 or in a state diagram, define more clearly when the signal should be set to OK and NOT_OK.

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

New text to be provided (by Sailesh).

Cl **40** *SC* **40.2.3, 40.2.4** *P* **40-12** *L* **all** # **61**

Brad Booth — Jato Technologies

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

Description of state diagram variables and timers doesn't follow the format used in other clauses (i.e. clause 24, clause 36, etc.).

SuggestedRemedy

Change to follow format used in other clauses.

Proposed Response *Response Status* **U**

ACCEPT.

Editor will make appropriate changes for consistency with clauses 24 and 36.

Cl **40** *SC* **40.2.4** *P* **40-13** *L* **25** # **331**

Andy Castellano — Broadcom

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

Timer definition is incorrect. Slave has 350ms to exit SLAVE SILENT state, but is allowed the full 750ms in training.

SuggestedRemedy

Change last sentence in maxwait_timer definition to "The timer shall expire 350+-5ms after being started if the PHY has not exited the SLAVE SILENT state, otherwise it shall expire 750+-10ms after being started."

Proposed Response *Response Status* **Z**

ACCEPT.

Cl **40** *SC* **40.2.5** *P* **40-14** *L* **5-31** # **290**

Shimon Muller — Sun Microsystems

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

The use of the maxwait timer is not very well defined.
The operation of this timer is controlled by the PHY Control but it's expiration event is used by the PMA, without any facilities for these two entities to communicate this event.
Also, there is no mention in the text how this timer is used.

SuggestedRemedy

1. Describe the use of this timer in 40.2.1.
2. Add a note to figure 40-4 with a reference to figure 40-13.
3. Add a new service primitive between PHY Control and PMA that passes the maxwait_timer_done parameter between the two entities.

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

See resolution of comment 258.

Cl **40** *SC* **40.2.5** *P* **40-14** *L* **all** # **65**

Brad Booth Jato Technologies

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

Use appropriate messages instead of variables for transitions.

SuggestedRemedy

Change the following:
link_control=DISABLE to PMA_LINK.request(DISABLE)
link_control=ENABLE to PMA_LINK.request(ENABLE)
config = MASTER to AN_CONFIG.indicate(MASTER)
loc_rcvr_status = SCR_OK to PHYC_RXSTATUS.request(SCR_OK)
loc_rcvr_status = OK to PHYC_RXSTATUS.request(OK)
loc_rcvr_status = NOT_OK to PHYC_RXSTATUS.request(NOT_OK)
rem_rcvr_status = OK to PHYC_REMRXSTATUS.request(OK)
rem_rcvr_status = NOT_OK to PHYC_REMRXSTATUS.request(NOT_OK)

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Consistency in state diagrams will be implemented by correctly defining the mapping of the variables and the message primitives in the state diagram variables sub-clause. In this case, 40.2.3.

Cl **40** *SC* **40.2.5** *P* **40-14** *L* **all** # **62**

Brad Booth Jato Technologies

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

No transitions out of SEND IDLE OR DATA when minwait_timer_done * loc_rcvr_status=OK * rem_rcvr_status=OK. Transition is required to restart the minwait_timer.

SuggestedRemedy

Create a loopback transition for SEND IDLE OR DATA based on minwait_timer_done * loc_rcvr_status=OK * rem_rcvr_status=OK.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.2.5** *P* **40-14** *L* **all** # **63**

Brad Booth Jato Technologies

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

No transitions out of SEND IDLE when minwait_timer_done * loc_rcvr_status=OK * rem_rcvr_status=NOT_OK. Transition is required to restart the minwait_timer.

SuggestedRemedy

Create a loopback transition for SEND IDLE based on minwait_timer_done * loc_rcvr_status=OK * rem_rcvr_status=NOT_OK.

Proposed Response *Response Status* **U**

ACCEPT.

Cl **40** *SC* **40.2.5** *P* **40-14** *L* **all** # **64**

Brad Booth Jato Technologies

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

Values are assigned to variables but the values should be variables assigned to messages.

SuggestedRemedy

Change the following:
tx_mode <= SEND_Z to PHYC_TXMODE.indicate(SEND_Z)
tx_mode <= SEND_I to PHYC_TXMODE.indicate(SEND_I)
tx_mode <= SEND_N to PHYC_TXMODE.indicate(SEND_N)

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3.1.1** *P* **40-16, other** *L* **12** # **89**

Rich Seifert Networks and Commu

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

There is no specification for the duration (or permissible range) of the reset function. (This problem occurs in more than one place in the draft.)

SuggestedRemedy

Provide a value or range of values for the reset function to assert pcs_reset = ON.

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Line 12: PCS Reset sets pcs_reset=ON while any of the above reset conditions hold true.

Page 40-44, line 9: same change for pma_reset.

Cl **40** *SC* **40.3.1.4.1** *P* **40-30** *L* **46** # **293**

Shimon Muller Sun Microsystems

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

The third sentence of the last paragraph is technically incorrect.
RX_DV should become de-asserted regardless of whether carrier extension is present or not. Also, there is no mention of RX_ER assertion when carrier extension is present.

SuggestedRemedy

1. Delete the second part of the third sentence of the last paragraph to read as follows: "Upon detection of ESD, PCS Receive de-asserts the signal RX_DV on the GMII".
2. Add the following sentence between the third and the fourth sentences: "If the last symbol period of ESD indicates that a carrier extension is present, PCS Receive will assert the RX_ER signal on the GMII".

Proposed Response *Response Status* **U**

ACCEPT.

Cl **40** *SC* **40.3.1.4.1** *P* **40-31** *L* **7-17** # **365**

Brad Booth — Jato Technologies

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

Duplicate definitions of primitives. PCS_CARRIER.indicate(receiving) is documented as being identical to PMA_CARRIER.indicate(receiving). Same applies for PCS_RXERROR.indicate(rxerror_status) and PMA_RXERROR.indicate. One set of definitions is not required. Text also refers to the PCS's clients for these primitives. Can find no indication of clients.

SuggestedRemedy

Remove one set of definitions and place the selected set in a service interface primitive list. Indicate in the diagrams which interface these primitives are use on.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment in 397 for PCS and will remove PMA_CARRIER.indicate as indicated in comment.

Cl **40** *SC* **40.3.1.5** *P* **40-31** *L* **30-31** # **90**

Rich Seifert — Networks and Commu

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

CRS is not used for frame reception. Frame reception is controlled by RX_DV.
The Carrier Sense function is optional, and is only required for half duplex operation.

SuggestedRemedy

Delete "frame reception and" in lines 30-31. Add a statement that the PCS Carrier Sense function is not required in a 1000BASE-T PHY that does not support half duplex operation.

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

See resolution to comment 294.

Cl **40** *SC* **40.3.1.5** *P* **40-31** *L* **30-31** # **294**

Shimon Muller — Sun Microsystems

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

The first sentence of the paragraph is technically incorrect.
The CRS signal on the GMII is not used for frame reception.

SuggestedRemedy

Change the first sentence of the paragraph to read as follows:
"The PCS Carrier Sense process generates the signal CRS on the GMII, which is used by the MAC for deferral in the half-duplex mode".

Proposed Response *Response Status* **U**

ACCEPT.

Cl **40** *SC* **40.3.1.6** *P* **40-31** *L* **43** # **366**

Brad Booth — Jato Technologies

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

The sentence "The PCS shall implement..." has been previous stated in 40.3.1.2 for which it applies.

SuggestedRemedy

Remove the sentence and verify the PICS entry has the correct reference.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3.1.6** *P* **40-31** *L* **45** # **91**

Rich Seifert — Networks and Commu

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

The Collision Detect function is optional, and is only required for half duplex operation.

SuggestedRemedy

Add a statement that the PCS Collision Detect function is not required in a 1000BASE-T PHY that does not support half duplex operation.

Proposed Response *Response Status* **U**

REJECT.

The clause 35 GMII says that collision is undefined in full-duplex. For ease of specification we have chosen to assert collision based upon receiving in full duplex mode the same way that 1000BASE-X does (clause 36).

Cl **40** *SC* **40.3.2.2** *P* **40-32** *L* **38-41** # **94**

Rich Seifert — Networks and Commu

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

The paragraph discusses spurious signals on the MDI, and is out-of-context in a subclause on signals between the PCS and Management.

SuggestedRemedy

Move the paragraph to a section that discusses transmitter output characteristics. Combined with my earlier comment, this deletes the entire subclause.

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

See response to comment 165.

Cl **40** *SC* **40.3.2.3** *P* **40-32** *L* **42-47** # **95**

Rich Seifert Networks and Commu

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

The paragraph provides no new information, and is just a pointer to another Clause. In addition, Clause 35 does not provide electrical characteristics for signals passing between the PCS and the GMII; it is only for the GMII.

SuggestedRemedy

Delete the entire subclause.

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

See resolution of comment 165.

Cl **40** *SC* **40.3.3** *P* **40-32** *L* **48-51** # **96**

Rich Seifert Networks and Commu

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

802.3 frames, and their structure, are defined in Clause 3. They cannot be redefined here. 1000BASE-T frames must be standard 802.3 frames.

SuggestedRemedy

Use a different term (other than "frame") to indicate the encapsulation of a transmission unit between the PCS and PMA. I suggest the term "stream", which would be consistent with its use for this purpose in 100BASE-X. The "SSD" and "ESD" become the "Start of Stream Delimiter" and "End of Stream Delimiter".

Proposed Response *Response Status* **U**

ACCEPT.

Will also modify the definition of stream in clause 1.4.

Will also change the title of 40.3.3 to use "stream".

Cl **40** *SC* **40.3.4.4, genera;** *P* **40-37,other** *L* **16-20** # **98**

Rich Seifert Networks and Commu

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

By definition, a Boolean variable can only take on the values TRUE or FALSE. There is no need to specify this explicitly.

SuggestedRemedy

Delete the "values" specification. If this comment is rejected, note that the value cannot be TRUE *and* FALSE; it must be one or the other.

Proposed Response *Response Status* **U**

ACCEPT.

Cl **40** *SC* **40.3.5** *P* **40-42** *L* **1-15** # **299**

Shimon Muller Sun Microsystems

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

The condition for transition between the CARRIER SENSE ON state and the CARRIER SENSE OFF state is incorrect.

SuggestedRemedy

Change the condition for transition between the two states to read as follows:
(repeater_mode=TRUE + tx_enable=FALSE * tx_error=FALSE) * receiving=FALSE

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

See resolution of comment 332.

Cl **40** *SC* **40.3.5** *P* **40-42** *L* **10** # **332**

Andy Castellano Broadcom

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

Condition on transition out of CARRIER SENSE ON is incorrect. Should occur when receiving = FALSE. Some parentheses are also missing.

SuggestedRemedy

Change to "(repeater_mode = TRUE + (tx_enable = FALSE * tx_error = FALSE)) * receiving = FALSE"

Proposed Response *Response Status* **U**

ACCEPT.

Cl **40** *SC* **40.3.5** *P* **40-39** *L* **24** # **289**

Howard Frazier Cisco Systems, Inc.

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

The transitions from ERROR CHECK to 1st CSExtend_Err VECTOR and 1st CSExtend Vector are exclusive, which is nice, but they leave a whole bunch of conditions unspecified. What if TXD<7:0> is something other than 0x0F or 0x1F? What is a PCS to do? I understand that these are the only legitimate encodings in the current GMII standard, but what about some future "supplement" to the GMII? What should the PCS do in the event that some other encoding is present? 802.3ab is silent on this point, and I think that this could lead to problems.

SuggestedRemedy

I suggest that the arc from ERROR CHECK to 1st CSExtend_Err Vector be changed to the condition:

tx_enable = FALSE * tx_error = TRUE * TXD<7:0> != 0x0F

where != means"NOT EQUAL".

By following this suggestion, the transition conditions will still be mutually exclusive, and all conditions will be covered. The resulting behavior will be that carrier extend error is transmitted whenever the encoding is anything other than normal end of frame or carrier extend.

Proposed Response *Response Status* **U**

REJECT.

Figure 40-8 on page 40-38 shows that this is not needed.

Cl **40** *SC* **40.4.5.1** *P* **40-48** *L* **1-5** # **99**

Rich Seifert Networks and Commu

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

A primitive exists in only one service interface. You are defining the PHYC-CONFIG.indicate primitive in both the PHY Control service interface and the PMA service interface. Service interfaces are defined from perspective of an entity to its clients.

SuggestedRemedy

Eliminate this subclause.

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

See resolution to comment 82.

Cl **40** *SC* **40.4.5.2.2** *P* **40-48, other** *L* **20** # **100**

Rich Seifert Networks and Commu

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

You are specifying a conformance requirement ("shall" statement) on an unobservable, abstract service interface. This is a global comment. Since abstract service interfaces are by definition *abstract*, they may not have any observable physical behavior. Thus, there cannot be any conformance requirements placed on them.

SuggestedRemedy

Eliminate all conformance requirements ("shall" statements) from all service interfaces, and eliminate their associated PICS proforma entries.

Proposed Response *Response Status* **U**

ACCEPT.

Cl **40** *SC* **40.4.5.7-8** *P* **40-50** *L* **44-52** # **101**

Rich Seifert Networks and Commu

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

These primitives are stated to be "identical" to some other primitive. This is not possible, since the other primitive(s) are given with respect to different client and service provider sublayers. There is no information given here as to who generates this primitive (clearly not the same generator as in the referenced primitive), how it is used, etc.

SuggestedRemedy

Include the full definition of the primitive in each sublayer where it exists, even if it is substantially *similar* to some other primitive.

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

See resolution to comment 397. The primitives have been removed.

Cl **40** *SC* **40.4.5.9** *P* **40-51** *L* **6-7** # **102**

Rich Seifert Networks and Commu

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

Since the definition of a PHY Control primitive cannot be the same as that for the PMA (since they have different clients), the reference to 40.2.2 is inappropriate.

SuggestedRemedy

Include the full definition of the primitive in each sublayer where it exists, even if it is substantially *similar* to some other primitive.

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

These messages are the same as you indicated.
The message PMA_RXSTATUS.request should be defined as PCS_RXSTATUS.indicate since it is a PCS primitive instead of a PMA primitive.

It should be listed as one of the inputs but not defined here.

Cl **40** *SC* **40.5** *P* **40-50** *L* **8** # **104**

Rich Seifert Networks and Commu

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

There is no definition of what constitutes an "equivalent" implementation.

SuggestedRemedy

Simply specify the registers that are required, and their semantics, rather than trying to make them "equivalent" to some other definition.

Proposed Response *Response Status* **U**

ACCEPT.

Actually on page 40-52.

Change "provide equivalents to MII registers" to "provide MII registers"

Cl **40** *SC* **40.5.1.1** *P* **40-52** *L* **29-47** # **105**

Rich Seifert Networks and Commu

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

The conformance requirements given here ("shall" statements) are redundant with the requirement to implement clause 28 Auto-Negotiation.

SuggestedRemedy

Simply include the requirement to perform clause 28 Auto-Negotiation (already done), and provide a table of the register value to be used.

Proposed Response *Response Status* **U**

ACCEPT.

Cl **40** *SC* **40.5.3** *P* **40-53** *L* **34,44 othe** # **108**

Rich Seifert Networks and Commu

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

Rather than specifying individual conformance requirements for every register (and sometimes, every bit in a register), simply make one conformance statement and provide a table of register syntax and semantics for 1000BASE-T.

SuggestedRemedy

Make a single conformance statement, such as "A 1000BASE-T PHY shall use the management register definitions and values specified in Table 40-xx.", and provide the appropriate table. This will greatly simplify the text and the PICS proforma.

Proposed Response *Response Status* **U**

ACCEPT.

Cl **40** *SC* **40.5.5.1** *P* **40-60** *L* **1-10** # **109**

Rich Seifert Networks and Commu

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

It is not clear whether this state machine *replaces* the Next Page part of the clause 28 Auto-Negotiation state machine, or if it somehow augments it. In either case, the mechanism linking this state machine to clause 28 is lacking.

In addition, the meaning of the statement on line 6 "... the mechanism becomes manual." is unclear. Does it mean that it must be initiated by a human operator (the normal interpretation of "manual")?

SuggestedRemedy

Clarify the relationship between this state machine and that in Clause 28.
Clarify the meaning of "manual".

Proposed Response *Response Status* **U**

ACCEPT.

Change the title of 40.5.5.1 to: "Auto-negotiate transmit state machine add-on for 1000BASE-T"

line 6: Change "Pages, the mechanism becomes manual. The first" to "Pages, the exchange is controlled by management. The first"

Cl **40** *SC* **40.5.5.1** *P* **40-62** *L* **42** # **259**

John Creigh Broadcom

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

I believe Gary Huff's comment number D3.0-18 in the previous draft was accepted but not put into Draft 4.0. His comment was:

Figure 40-15 incorrectly assignes the null message as: mr_np_tx[11:1]<="0" in states Software_NULL_TX(*2) and 1000T_NULL_TX. According to Annex 28C page 28-49 the Null Message is defined as M[10:0]="00000000001".

SuggestedRemedy

Change Figure 40-15 in states Software_NULL_TX(*2) and 1000T_NULL_TX from: mr_np_tx[11:1]<="0" to : mr_np_tx[11:2]<="0"; mr_np_tx[1]<="1".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.5.2** *P* **40-62** *L* **36** # **333**

Andy Castellano Broadcom

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

In the 1000T_NULL_TX state and the Software_NULL_TX states, mr_np_tx[11:1] is assigned all 0 s, which is not the null message page.

SuggestedRemedy

Change "mr_np_tx[11:1]<="0" to "mr_np_tx[11:1]<="00000000001". This resolution was approved at the last meeting.

Proposed Response *Response Status* **U**

ACCEPT.

See resolution to comment 259.

Cl **40** *SC* **40.5.5.4** *P* **40-67,68** *L* **45-50.1-21** # **112**

Rich Seifert Networks and Commu

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

This subclause simply repeats the contents of Annex 28B3.

SuggestedRemedy

Delete the entire subclause.

Proposed Response *Response Status* **U**

ACCEPT.

Cl **40** *SC* **40.6.1.1.1** *P* **40-69** *L* **26,29,31** # **113**

Rich Seifert Networks and Commu

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

A conformance requirement ("shall" statement) is being made about a test fixture. This appears to imply that, in order to conform to 1000BASE-T, I must build such test fixtures and/or ship them with the product.

SuggestedRemedy

Eliminate all conformance requirements on test fixtures.

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

At the beginning of 40.6.1.1.1, add: When these tests are performed, they shall use the test fixture described below.
Then the body of the subclause will be modified to use the word "will" instead of "shall".

Cl **40** *SC* **40.6.1.1.2** *P* **40-70** *L* **32-33** # **114**

Rich Seifert Networks and Commu

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

The requirement here is that every 1000BASE-T product shipped must have test modes available for conformance testing. This should not be a product requirement. The test modes need only be available in a device that is being conformance tested, which is not necessarily every device produced. This requirement unnecessarily increases the cost of production transceivers.

SuggestedRemedy

Eliminate the requirement that all devices have conformance test capability.

Proposed Response *Response Status* **U**

REJECT.

The circuitry to add conformance testing is estimated to be less than .5%.

Cl **40** *SC* **40.6.1.1.2** *P* **40-71** *L* **34-35** # **119**

Rich Seifert Networks and Commu

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

Conformance testing can not be accomplished using figure 40-20 (page 40-73). The resolution of this figure is not good. It can be used only for illustration purpose. For a conformance testing we need test vectors in electronics format. The existing test mode 4, is a generator of a single transmitted pair (the other 3 pair is transmitting the same data). This way we can not verify the correctness of the trellis coding. To verify the trellis coding, we need random data (probably similar to test mode 4) transmitted as a normal data to all 4 pairs.

SuggestedRemedy

Prepare a file of required output samples. To make the test repeatable I suggest to use digital samples which should be delivered to the transmitter D/A.
Add test mode 5 to verify the trellis coding scheme.

Proposed Response *Response Status* **U**

REJECT.

1. Test is not intended to test the viterbi decoder.
2. This is clearly described as an example. The symbol sequence is described by an equation on page 40-71.

Cl **40** *SC* **40.6.1.2.5** *P* **40-87** *L* **48** # **260**

John Creigh Broadcom

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

The master and slave high frequency jitter numbers should be asymmetrically allocated since the master is generating its clock off of a local clock source while the slave is generating its clock off of the received signal.

SuggestedRemedy

40-87 line 48: Change 0.350 ns to 0.250 ns.
40-88 line 15: Change 0.350 ns to 0.450 ns.

Proposed Response *Response Status* **C**

ACCEPT. Use 0.3 for MASTER
use 0.4 for SLAVE

Cl **40** *SC* **40.6.1.3** *P* **40-88** *L* **42, 44** # **191**

Edward S. Chang Unisys Corporation

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

The bit error rate 10^-10 should be 10^-12 to be able to interoperate with 1000BASE-SX,LX, CX ; furthermore, at 125 Gbps data rate, 10^-12 is required. Same reason as mentioned before.

As a result, the packet error rate should be improved to 10^-9 from present PER of 10^-7.

SuggestedRemedy

Change symbol erroro rate from 10^-10 to 10^-12.
Change packet error rate from 10^-7 to 10^-9

Proposed Response *Response Status* **U**

REJECT.

See resolution of comment 155.

1000BASE-T links will interoperate with 1000BASE-X links limited by the topology requirements of the standard.

Cl **40** *SC* **40.6.1.3.3** *P* **40-89** *L* **19** # **261**

John Creigh Broadcom

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

The common mode test may generate unacceptably high differential energy and should have the stimulus amplitude reduced.

SuggestedRemedy

Page 40-88 line 4: Strike the line starting "Common mode noise..." and ending "IEC-61000-4-3."

Page 40-88 line 19-20: Change 4.0Vrms (5.65 Vpeak) to 1.0Vrms (1.413 Vpeak).

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Accept remedy, in addition add a note "This value is still under consideration and subject to revision at the November 1998 plenary".

Should also read 1.0Vrms (1.414 Vpeak).

Cl **40** *SC* **40.6.1.3.4** *P* **40-90** *L* **6** # **192**

Edward S. Chang Unisys Corporation

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

The packet error rate of 10^-7 is too high for 1000BASE-T, it should be 10^-9. The reason given is the same as before.

SuggestedRemedy

Change packet error rate from 10^-7 to 10^-9

Proposed Response *Response Status* **C**

REJECT.

See resolution of comment 191.

Cl **40** *SC* **40.6.1.3.4** *P* **40-90** *L* **6** # **117**

Rich Seifert Networks and Commu

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

The specified packet error rate (frame loss rate) of 1x10^-7 does not correlate to the earlier specified bit error rate of 1x10^-10. For 1000 byte frames with a 1x10^-10 BER, the frame loss rate would be 8x10^-7. (The 1x10^-7 figure would be correct for a frame of 1000 bits, not 1000 bytes.)

SuggestedRemedy

Change the frame loss rate specification to 8x10^-7. Also change "byte" to octet (global), and "packet" to "frame".

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Should leave the frame error rate at 10^-7. This part of the comment won't be accepted.

All references to "packet" will be checked for change to "frame". All "byte" references will be checked for conversion to "octet".

Cl **40** *SC* **40.7.2** *P* **40-93** *L* **27** # **136**

Alan Flatman LAN Technologies

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

"Unless otherwise specified" contradicts the "shall" statement

SuggestedRemedy

Delete "Unless otherwise specified"

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Duplicate of 120

Cl **40** *SC* **40.7.2** *P* **40-93** *L* **27** # **120**

Alan Flatman

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

"Unless otherwise specified" contradicts the "shall" statement later in this line.

SuggestedRemedy

Delete "Unless otherwise specified"

Proposed Response *Response Status* **U**

ACCEPT.

Cl **40** *SC* **40.7.2** *P* **40-93** *L* **28** # **121**

Alan Flatman

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

No tolerance specified for load impedance.

SuggestedRemedy

Amend 2nd sentence to read "The tolerance of the load impedance and poles of the test filer used in this section shall be no worse than 1%".

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

The global tolerance is already specified in 40.6. It defines a 1% tolerance that applies everywhere except where otherwise specified.

In order to raise visibility of a global tolerance for components, we will move the tolerance from 40.6 to 40.1.6 because 40.1.6 contains conventions for this clause. This tolerance only applies to components so the 1% in subclause 40.7.2 will remain.

We will also implement your change for clarity.

The references to 1% in this subclause will be changed to +/- 1%.

Cl **40** *SC* **40.7.2.2** *P* **40-93** *L* **40-43** # **123**

Alan Flatman

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

There is no need to specify this formally in a subclause. it is specified in line 12 above and formally referenced to ISO/IEC 11801. We don't measure it and it has no tolerance.

SuggestedRemedy

Delete 40.7.2.2

Proposed Response *Response Status* **U**

ACCEPT.

Delete subclause 40.7.2.2.

We will insert 100 ohms in front of Category 5 on line 13.

Cl **40** *SC* **40.7.2.3.1** *P* **40-94** *L* **18-19** # **118**

Rich Seifert Networks and Commu

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

The Editor's Note appears to imply that the current specification of ISO/IEC 11801 does not meet the return loss requirement. It is a requirement that 1000BASE-T operate within its specifications with the *currently specified* cable plant, and not some future set of specifications.

SuggestedRemedy

If the current specification of ISO/IEC 11801 does not meet the return loss requirements for 1000BASE-T, either modify the 1000BASE-T signaling to live with the existing specification, or eliminate the return loss requirement.

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

An editor's note is not part of a final standard. It will be removed.

Cl **40** *SC* **40.7.5** *P* **40-96** *L* **16** # **268**

Terry Cobb Lucent

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

Alien crosstalk is not defined.

SuggestedRemedy

Add:
40.7.5.2 Alien Crosstalk Loss

As discussed in 40.7.5 one of the sources of noise in a duplex channel is from signals in cables that are bundled with a 1000BASE-T cable. This noise is referred to a alien crosstalk noise. To ensure this noise is sufficiently small and does not impact the objective BER, the Alien Power Sum Near-End Crostalk (PSNEXT) loss is specified. The PSNEXT loss between a 1000BASE-T duplex channel (cable pair) and all of the cable pairs in the cables that are part of the cable bundle shall be

Alien_PSNEXT_Loss(f) < 32 - 15Log(f/100) (dB

from 1 to 100 MHz, where f is in MHz

Proposed Response *Response Status* **U**

REJECT.

(To be continued)
We don't need to include an alien crosstalk specification because we already specify external noise. The external noise must meet our existing specification including alien crosstalk.

Editor's NOTE (post meeting) As per above, the Noise Sub-Task Force will address this issue as part of their resolution of comment 267.

Cl **40** *SC* **40.7.5.1** *P* **40-96** *L* **10** # **267**

Terry Cobb — Lucent

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

25 mv p-p is too small for external noise. It should be consistent with 100 BaseT2 which uses 25 mv peak. Also in presentation from HP Labs Bristol in Nov. they indicated a 40 mv p-p.

SuggestedRemedy

Change to 25 mv peak.

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.
In Task Force discussion on September 3, the group agreed that the issue of noise needed more work. The group assigned a Noise Sub Task Force to study the problem and provide the editor withbetter noise values before publication of the next draft (anticipated at 1 October.)

Change to ??mV p-t-p narrowband (sinusoidal) noise and ??mV rms wideband noise from 1 to 100MHz.

In addition add a note: These values are under review and may be changed in a subsequent darft.

The above text is as far as the resolution got to in the meeting. This comment is to be finally closed by the Noise Sub Task Force before publication of next draft.

Cl **40** *SC* **40.8.2** *P* **40.98** *L* **3** # **319**

Geoff Thompson — Bay Networks

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

Says ""a balanced cabling connector"" of no specified performance

SuggestedRemedy

Proposed new text: The MDI Connector (jack) when mated with a balanced cabling connector (plug), Category 5 or better Category 5 or better

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The MDI Connector (jack) when mated with any balanced cabling connector (plug) that meets Category 5 requirements.

Cl **40** *SC* **40.8.3.1.2** *P* **40-98** *L* **19** # **355**

Daniel Dove — Hewlett Packard

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

Incorrect Logic

SuggestedRemedy

Change "FALSE: linkpulse=otherwise" to "FALSE: otherwise"

Proposed Response *Response Status* **U**

ACCEPT.

Cl **40** *SC* **40.8.3.1.2** *P* **40-99** *L* **19** # **356**

Daniel Dove — Hewlett Packard

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

Incorrect Logic

SuggestedRemedy

Change "FALSE: linkpulse=otherwise" to "FALSE: otherwise"

Proposed Response *Response Status* **U**

ACCEPT.

Cl **40** *SC* **40.8.3.1.2** *P* **40-99** *L* **19** # **354**

Daniel Dove — Hewlett Packard

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

Incorrect Logic

SuggestedRemedy

Change "FALSE: linkpulse=otherwise" to "FALSE: otherwise"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.8.3.1.4** *P* **40-100** *L* **15** # **147**

Daniel Dove — Hewlett Packard

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

The latest change to the state machine was not correctly implemented.

SuggestedRemedy

On the exit transition from MDI_MODE, change "TD_AUTONEG=idle" to "T_Pulse = FALSE"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40A** *P* **40A.135** *L* **1** # **323**

Geoff Thompson Bay Networks

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

There is no callout as to whether or not this annex is normative or informative. The opening text speaks recommendations but there is a ""shall"" requirement in line 51 so the answer is not obvious.

SuggestedRemedy

Pick the appropriate annex type, label the annex and reword the annex as appropriate."

Proposed Response *Response Status* **C**

ACCEPT.

Will change the "shall" to "should" and will add "Informative" to the title.

Cl **40** *SC* **40A** *P* **40A.135** *L* **1** # **322**

Geoff Thompson Bay Networks

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

Annex is not specified as ""Normative"" or ""Informative""

SuggestedRemedy

fix"

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Accepted comment 323 which covers this comment as well.

Cl **40** *SC* **40A.1.1.3** *P* **40A.136** *L* **10** # **328**

Geoff Thompson Bay Networks

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

This is not the maximum configuration as specified in 568. Specifically 568 allows another connector in the link

SuggestedRemedy

detailed remedy too long to fit here

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Reinserting the transition point in figure 40A-1.

Cl **40** *SC* **40B** *P* **40B.137** *L* **1** # **329**

Geoff Thompson Bay Networks

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

The annex is not labeled as to whether it is informative or normative.

SuggestedRemedy

"

Proposed Response *Response Status* **C**

ACCEPT.

Will make the annex normative.

Cl **40** *SC* **40B** *P* **40B.137** *L* **37** # **330**

Geoff Thompson Bay Networks

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

The annex does not meet the metric policy for IEEE standards

SuggestedRemedy

Proposed Response *Response Status* **C**

ACCEPT.

Will convert to metric units.

Cl **40** *SC* **40B** *P* **40-137** *L* **8** # **295**

Howard Frazier Cisco Systems, Inc.

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

The figure of the cable clamp doesn't look like it was drawn in Framemaker. You must submit editable framemaker drawings to the IEEE, and this will become an issue when you submit to RevCom.

SuggestedRemedy

Redrawn Figure 40B-1 and 40B-2 in framemaker.

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Have made all efforts to use FrameMaker where possible.

Cl **40** *SC* **Fig 40A-1** *P* **40-136** *L* # **130**

Alan Flatman

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

Figure should contain a Transition Point and refer to established terminology for cable sections.

SuggestedRemedy

Add a TP and refer to Work Area cable, Patch Cord and Equipment Cable.

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

See resolution in comment 328.

Cl **40** *SC* **Figure 40-1** *P* **40-2** *L* **1-18** # **75**

Rich Seifert Networks and Commu

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

The MAC Control sublayer is missing from the figure.
The 1000BASE-T PHY always connects to another 1000BASE-T PHY. Whether it is part of a repeater set of not is irrelevant. The figure gives the impression that there is a fundamental difference between connecting to another PHY vs. a repeater set.

SuggestedRemedy

Use the "standard" figure, which includes the MAC Control sublayer.
Delete the statement to the right of the "medium" in the figure ("To 1000 Mb/s Baseband Repeater Set . . .").

Proposed Response *Response Status* **U**

ACCEPT.

Cl **40** *SC* **Figure 40-3** *P* **40-5** *L* **1-41** # **80**

Rich Seifert Networks and Commu

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

This figure indicates that the PHY Control function is part of the PCS. This is not congruent with the text of the specification (see later comment on PHY Control, re: 40.1.2.3).

Many interfaces are shown to a wide variety of other entities, with no clear grouping of signals. In particular, the GMII signals should be shown more clearly as a group.

The signals “receiving”, “rxerror_status”, and “config mgt” are shown with no indication of what they connect to.

A signal “Clause 29:link control” is shown twice. It is not clear at all how a signal connects to a “clause”; signals must be part of an interface.

The notation that MDC and MDIO has “pervasive connections to all blocks” is not completely true. There are many blocks in this figure that have no defined management objects or usage.

In most figures, the PCS is shown architecturally “above” the PMA (see Figure 40-1). Yet this figure shows them side-by-side. This is confusing.

SuggestedRemedy

Redraw the figure to clarify the meaning. In particular:
(1) Show the PCS above the PMA
(2) All interface signals should be grouped together, and labeled with the name of the interface

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Will look at the way clause 36 figure 36-2 is layed out. It follows the guidelines of this comment.

Cl **40** *SC* **Figure 40-4** *P* **40-14** *L* **5-32** # **258**

Steve Pryor Compaq Computer Co

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

Clarification of Technical comment #88.

Bob Siefert's comment about removing maxwait_timer from the figure is incorrect but understandable. It confused me at one time as well because there is no reference in the figure to the purpose of the timer. In fact, it is used in the Link Monitor State Diagram (figure 40-13) to force the link monitor back to a Link Down state if loc_rcvr_status is NOT_OK when the timer expires.

SuggestedRemedy

I recommend a comment be added after Figure 40-4 that says:

"maxwait_timer is tested by the Link Monitor to force link_status to be set to FAIL if the timer expires and loc_rcvr_status is NOT_OK. See Figure 40-13."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **Figure 40-4** *P* **40-14** *L* **5-32** # **88**

Rich Seifert Networks and Commu

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

The diagram allows an exit from the "Disable 1000BASE-T transmitter" state with pma_reset still asserted.

The maxwait_timer is started and stopped, but never actually tested. It seems superfluous

SuggestedRemedy

Change the exit conditions for the "Disable 1000BASE-T transmitter" state to: "link_control = DISABLE * pma_reset = OFF".

Eliminate the maxwait_timer.

Proposed Response *Response Status* **U**

REJECT.
Concerning pma_reset, since there is an open arrow when pma_reset=ON, results in entry to DISABLE 1000BASE-T TRANSMITTER. Therefore, there is no requirement to test for PMA_RESET.
Reference 21.5.3 for information on open arrows.

Concerning maxwait_timer, see comment 258.

Cl **40** *SC* **Figure 40-7** *P* **40-33** *L* **3-33** # **97**

Rich Seifert Networks and Commu

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

Contrary to the caption and the text, this figure does not indicate any frame (or stream) structure. I appears to be a timing diagram of signals from the state machine of 40.3.4.

SuggestedRemedy

Move the figure to the appropriate place within 40.3.4, and rename it as a timing diagram.

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

This is not a timing diagram. However we ought to rename the diagram to "PCS Encapsulation".

Cl **40** *SC* **Multiple** *P* **Multiple** *L* **Multiple** # **287**

Shimon Muller Sun Microsystems

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

The definition of the service interfaces in clause 40 is flawed.
The general guidelines for service primitives definition is as follows:
- The prefix indicates the service "provider".
- The suffix indicates the "direction" of the service.
- The same primitive cannot be defined multiple times in different sub-layers, and have different names in each sublayer.

SuggestedRemedy

For the sake of clarity generate a new sub-clause (40.2) for all service primitives' definition, titled "1000BASE-T PHY Service Specification". Include a diagram that contains ALL the primitives.

Change all the currently defined service primitives as follows:
- PHYC_CONFIG.indicate:
  Leave as is.
  PHY Control provides the service to PCS and PMA by indicating the PHY configuration state.
- PHYC_TXMODE.indicate:
  Change to PCS_TXCODE.request.
  The PCS provides the service to PHY Control by sending the sequences of code groups as requested by PHY Control.
- PHYC_RXSTATUS.request:
  Change to PCS_RXSTATUS.indicate.
  The PCS provides the service to PHY Control by indicating the local status of the link.
- PHYC_REMRXSTATUS.request:
  Change to PCS_REMRXSTATUS.indicate.
  The PCS provides the service to PHY Control by indicating the remote status of the link.
- PMA_TYPE.indicate:
  Leave as is.
- PMA_UNITDATA.request:
  Leave as is.
- PMA_UNITDATA.indicate:
  Leave as is.
- PMA_LINK.request:
  Leave as is.
- PMA_LINK.indicate:
  Leave as is.
- PMA_CARRIER.indicate:
  Delete this primitive.
  Carrier Sense is a PCS function and it does not require a service primitive. The GMII-to-PLS mapping function takes care of mapping the CRS signal to the appropriate primitive.
- PMA_RXERROR.indicate:
  Delete this primitive.
  Rx error detection is a PCS function and it does not require a service primitive. The GMII-to-PLS mapping function takes care of mapping the RX_ER signal to the appropriate primitive.
- PMA_RXSTATUS.request:
  Delete this primitive. This is a duplicate of PCS_RXSTATUS.indicate.

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Right concept but should be defined with the corresponding service interface.

Cl **40** *SC* **NA** *P* **NA** *L* **NA** # **193**

Edward S. Chang Unisys Corporation

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

In this 802.3ab/D4 document, the jitter budget and bandwidth budget are specified.

In a very high data rate, the bit-cell time decreases, in the 1000BASE-T, the cell time is 1000 ps. All components incolved includind transmitter, cable receiver, clock recovery, acn contribute random jitter and deterministic jitter to exceed the the total bit-cell time of 1000 ps. The only way to assure the system to meet the specied bit error rate is to assure the sum of all component jitters are smaller than 1000 ps. Especially, for interoperability, all components may be made by all different companies. To assure all parts from different companies can work together to meet BER is to specify jitter specification for each components or transmitter, cable receiver, and clock recovery. The 1000BASE - SX, LX and CX have jitter budget tabualted on Table-10-, and Table 39-5, respectively in IEEE 802.3z D5 documents. Without jitter budget, no way we can assure 1000BASE-T will be operable among vendors.

Again at the 1 Gbps data rate, the total allowed system rise time is 1000x0.8 = 800 ps. The rms sum of the rise times of all components should not exceed 800 ps, otherwise, additional timing distortion will be introduced to cause excessive read errors. If the transmitter rise time, cable bandwidth (or cable output rise time) and receiver bandwidth are specified, we can assure the rms sum of all rise times will be less than 800 ps. Then the system will meet the specified BER and interoprable among vendors.

Unfortunatly, 8023ab D4 does not have either jitter budget, nor bandwidth budget. They should be added to this document.

SuggestedRemedy

Create new clauses to speicify Jitter Budget, and bandwidth budget.

Proposed Response *Response Status* **U**

REJECT.

Invalid premise.

Cl **40** *SC* **Table 40-4** *P* **40-53** *L* **16-29** # **107**

Rich Seifert Networks and Commu

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

The table includes register assignments for 100BASE-T2.

SuggestedRemedy

If the assignments are the same for 100BASE-T2 and 1000BASE-T, simply point the reader to the 100BASE-T2 clause. If not, then eliminate the -T2 reference in this table.

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

The register names need to be changed and harmonized between clauses 22, 28, 30, 32 and 40.
Response needs to be further clarified after research.

Cl **40** *SC* **Table 40-8** *P* **40-66** *L* **6,25** # **110**

Rich Seifert Networks and Commu

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

Line 6 appears to imply that a DTE-to-Bridge connection is somehow different from a DTE-to-DTE connection, even though a bridge is a DTE.
Line 25 appears to imply that repeater-to-repeater links are permissible.

SuggestedRemedy

As per my earlier comment, eliminate the use of the term "repeater/bridge". Properly done, this should resolve these problems as well.

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

See resolution of comment 77.

Cl **28** *SC* **Table 28B3** *P* **28B-2** *L* **38-46** # **71**

Rich Seifert Networks and Commu

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

Since the behavior of both partners is the same for rows 6 and 9, the table can be further simplified.

SuggestedRemedy

In row 6, change the "0" in the ASM_DIR column to "Don't care", and delete row 9.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **28D** *SC* **28C-1** *P* **28D-1** *L* **16** # **153**

Bob Grow XLNT

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

This paragraph is confusing. The next page registers are 7 and 8. Registers 9 and 10 are control and status registers, and are not unique to 1000BASE-T.

SuggestedRemedy

I assume from the second sentence that the intent would be:

"1000BASE-T transmits and receives next pages for exchange of information related to MASTER/SLAVE operation. This information is specified in MII registers 9 and 10 which are required in addition to registers 0-8 as defined in 28.2.4 and 32.5.2. (40.5)"

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to comment 107.

Cl **28D** *SC* **28D.4** *P* **28D-1** *L* **33,34** # **182**

David Law

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

While the addition of 1000BASE-T to 28.3.1 is stated here I cannot find the textual changes to 28.3.1 required.

SuggestedRemedy

Add the textual changes required for 28.3.1

Proposed Response *Response Status* **C**

ACCEPT.
Add 1000BASE-T to the list in 28.3.1 with appropriate definition as follows:

1GigT; represents that the 1000BASE-T PMA is the signal source.

Cl **28D** *SC* **28D.4** *P* **28D-1** *L* **36** # **217**

Benjamin Brown Cabletron Systems, In

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

Missing addition for Asymmetric Pause

SuggestedRemedy

Add a line at the end of the current additions for 1000Base-T to include a statement about Asymmetric Pause.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Ongoing work to move discussion of assymetric pause into clause 28.

Cl **40** *SC* **40.1** *P* **40-1** *L* **24** # **380**

John Payne JLP Associates

Comment Type **T** *Comment Status* **R**

Previous standards have referneced only available cabling standards (for example, cat-3 or cat-4). There is no need to add "or better". This could lead to confusion. The working group PAR was for cat-5.

SuggestedRemedy

Remove " or cabling with better transfer characteristics that cat-5"

Also remove on 40.1.2. line 44

Proposed Response *Response Status* **C**

REJECT.
Of the three previous clauses that have specified cable category support, two (100BASE-T4 and 100BASE-T2) have used the phrase "or better. . …" in defining cabling requirements and one (100BASE-TX) did not.
Since 1000BASE-T sets minimum link requirements, we feel the phrase "or better" is appropriate.

Cl **40** *SC* **40.1.1** *P* **40-2** *L* **11-15** # **174**

David Law

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

The PHY does not include part of the GMII.

SuggestedRemedy

"The curly brackets marked 'PHY' on the right hand side of the AUTONEG, PMA and PCS sublayers should only go as high as the top of the PCS (See figure 36-1 for an example). Also "

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.1** *P* **40-2** *L* **12-15** # **176**

David Law

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

Why is there an arrow to the PCS that is marked with the text '... with the PMA sublayer ...'. I believe this is a copy and paste error from PHYs that had an imported PMD that required a bypass round the PMD service interface as being an imported interface it did not provide the auto-negotiation support. In the 1000BASE-T case AUTONEG communicates directly with the PMA interface and the PHY CONTROL interface (see Figure 40-3) so I do not believe this bypass is required.

SuggestedRemedy

Delete the arrow between AUTONEG and the PCS an its associated note.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.1** *P* **40-1** *L* **49** # **219**

Benjamin Brown Cabletron Systems, In

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

Phys can connect to repeaters or DTEs

SuggestedRemedy

Add this to the end of the sentence "or to another PHY"

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to comment 16.

Cl **40** *SC* **40.1.1** *P* **40-1** *L* **51** # **177**

David Law

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

I do not believe Clause 40 builds on Clause 21 (100Mb/s Overview) nor Clause 27 (100Mb/s repeater). I do believe it builds on Clause 34 (1000Mb/s overview) which mentions 1000BASE-T several times.

SuggestedRemedy

"Delete reference to Clause 21 and 27, add reference to Clause 34."

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **40** *SC* **40.1.2.1** *P* **40-5** *L* **26, 31** # **169**

David Law

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

I do not believe that the signals receiving and rxerror_status are required in the 1000Mb/s PHY. These signals appeared in 100Mb/s PHYs to support 100Mb/s repeaters (see 27.2 and figure 27-1) as the bit budget was so tight MII based repeaters were not feasible. Also the concept of disabling CRS in a 'repeater' mode was not provided by 100Mb/s PHYs so the receiving signal had to be passed directly to the repeater.

SuggestedRemedy

Remove the signal rxerror_status from figure 40-3. Remove the signal receiving from being an output of the 1000BASE-T PHY and only show it as a signal passing between the PCS RECEIVE function and the PCS CARRIER and COLLISION functions. Note that there will be several other comments relating to the removal of rxerror_status.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.2.3** *P* **40.6** *L* **30** # **308**

Geoff Thompson Bay Networks

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

The PHY control interface is call ""abstract"" but it then goes on to say that it is ""specified"". Seems to me that if it is abstract that it can't be specified, only described.

SuggestedRemedy

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

However this interface has now been removed as PHY control will now be within the PMA.

Cl **40** *SC* **40.1.4.3** *P* **40.7** *L* **25** # **312**

Geoff Thompson Bay Networks

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

What is this sub-clause trying to say? It does not seem to say anything useful. Can we fix it so it has a higher purpose than just killing tree? Also the business about the exposed GMII being optional has already been covered in the sub-clause above (for

SuggestedRemedy

Perhaps we could say here that 1000BASE-T needs no special cabling for DTE to DTE connection"

Proposed Response *Response Status* **C**

ACCEPT.

Subclause has been removed (see comment 85).

Cl **40** *SC* **40.13.5** *P* **40-111** *L* **5** # **39**

Thomas K. Joergensen Intel

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

The wording in PCT8 use a "must" instead of a "shall". As complience to supclause 40.3.1.3.5 is mandetory is shall be a "shall".

SuggestedRemedy

Exchange the word "must" with "shall".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.2.3** *P* **40-12** *L* **46** # **87**

Rich Seifert Networks and Commu

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

The values of an operand cannot be ON *and* OFF. This is a global comment.

SuggestedRemedy

Simply list the possible values for the operand(s), e.g., ON, OFF.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.2.5** *P* **40-14** *L* **15** # **224**

Benjamin Brown Cabletron Systems, In

Comment Type **T** *Comment Status* **R**

What is the maxwait_timer used for in this state diagram?

SuggestedRemedy

Remove this timer from the state SLAVE SILENT

Proposed Response *Response Status* **C**

REJECT.

See comment 258.

Cl **40** *SC* **40.2.5** *P* **40-14** *L* **25-26** # **225**

Benjamin Brown Cabletron Systems, In

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

Arrows between states should exit from the bottom and enter at the top.

SuggestedRemedy

Re-route the arrows between states SEND IDLE OR DATA and SEND IDLE

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3** *P* **40-15** *L* **35** # **394**

David Law 3Com

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

While the 'carrier' signal needs to be passed from the PCS Receive function to other PCS functions I do not believe it is required as an output as this was a 100Mb/s PHY only requirement (see my previous comment on this subject).

SuggestedRemedy

Remove the signal 'carrier' as an output from the PCS block.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3** *P* **40-15** *L* **40** # **393**

David Law 3Com

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

While the 'rxerror_status' signal is used internally to the PCS Receive function (to increment the Idle Error counter) I do not believe it is required as an output as this was a 100Mb/s PHY only requirement (see my previous comment on this subject).

SuggestedRemedy

Remove the signal 'rxerror_status' as an output from the PCS Receive function.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3.1.4.1** *P* **40-31** *L* **10 to 18** # **397**

David Law 3Com

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

As I have commented I do not believe the PCS interface requires PCS_CARRIER.indicate(receiving) nor PCS_RXERROR.indicate(rxerror_status) as these were repeater requirements for 100Mb/s only PHYs. As such both of these primatives can be removed and their parameters can become internal PCS state machine variables. If accepted this subclause will require rewriting to remove mention of these primitives.

SuggestedRemedy

Remove the primitives PCS_CARRIER and PCS_RXERROR and convert their parameters to internal PCS state machine variables. Re-word this subclause as appropriate.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Will remove except in the state machine.

Cl **40** *SC* **40.3.1.4.1** *P* **40-31** *L* **10-17** # **228**

Benjamin Brown Cabletron Systems, In

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

Weak description of primitives

SuggestedRemedy

Add sections for Semantics of prmitives, When generated and Effect of receipt for both promitives

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Hwever these primatives have been deleted as they were not required.

Cl **40** *SC* **40.3.1.4.1** *P* **40-30** *L* **36-37** # **226**

Benjamin Brown Cabletron Systems, In

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

Perhaps this is a mis-understanding of the decoding flow but it confuses me to read that the SSD is replaced by preamble bits then RXDV is asserted after SSD. Why isn't RXDV asserted along with the preamble bits of SSD?

SuggestedRemedy

Clean up the wording of this paragraph so this is less confusing.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to comment 227.

Cl **40** *SC* **40.3.1.4.1** *P* **40-30** *L* **36-37** # **227**

Benjamin Brown Cabletron Systems, In

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

Perhaps this is a mis-understanding of the decoding flow but it confuses me to read that the SSD is replaced by preamble bits then RXDV is asserted after SSD. Why isn't RXDV asserted along with the preamble bits of SSD?

SuggestedRemedy

Clean up the wording of this paragraph so this is less confusing.

Proposed Response *Response Status* **C**

ACCEPT.

Change "... following ..." to "... on detection of ..."

Cl **40** *SC* **40.3.1.4.1** *P* **40-30** *L* **40** # **395**

David Law 3Com

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

Suggest that it is RX_ER that is de-asserted at the end of an error, not RX_DV as stated.

SuggestedRemedy

Suggest text 'De-assertion of RX_DV and ...' should read 'De-assertion of RX_ER and ...'

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE

When the receiver is in the IDLE state, detection of symbols which are not valid idles and not a valid SSD pair result in the transition to the BAD SSD state where RX_ER is asserted
simultaneously with the assignment of 0x'0E to RXD and the assignment of ERROR to rxerror_status. This state is maintained until the subsequent detection of four consecutive idles which results in the transition to the IDLE state and the deassertion of RX_ER and the assignment of NO_ERROR to rxerror_status.

Cl **40** *SC* **40.3.2.1** *P* **40-32** *L* **17, 25** # **296**

Shimon Muller Sun Microsystems

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

The description of TX_EN and RX_DV in the table is not entirely correct. These signal frame not just the data and SFD fields, but rather all the fields of a frame, excluding extension.

SuggestedRemedy

Change the description of TX_EN and RX_DV to read as follows: "Frames all the fields of a frame, excluding extension".

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to comment 165.

Cl **40** *SC* **40.3.4.1** *P* **40-35** *L* **30-35** # **170**

David Law

Comment Type **T** *Comment Status* **R**

If it is accepted that rxerror_status is only required for 100Mb/s repeaters (see my previous comment) then this variable can be deleted from here and also the associated state machines.

SuggestedRemedy

Delete rxerror_status from variable definition and from associated state machines.

Proposed Response *Response Status* **C**

REJECT.

Cl **40** *SC* **40.3.4.1** *P* **40-35** *L* **31-33** # **297**

Shimon Muller Sun Microsystems

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

The reference to the PMA_RXERROR.indicate primitive is incorrect, since this primitive should not exist in the first place.

SuggestedRemedy

Delete the second sentence of the paragraph.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3.4.1** *P* **40-35** *L* **4** # **168**

David law

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

The text states that loc_rcvr_status is generated by the PCS receive function yet it is not an output of the PCS receive state machine, but in fact seems to be an input (see open arrow transition into LINK FAILED state of figure 40-10). I have look through the rest of the text and cannot find a state machine that generates this signal."

SuggestedRemedy

Please clarify source of the loc_rcvr_status signal.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

New text to be provided (by Sailesh).

Cl **40** *SC* **40.3.4.2** *P* **40-36** *L* **45** # **286**

Howard Frazier Cisco Systems, Inc.

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

Clock tolerance is not specified here, which is different from the convention we following in 100BASE-X and 1000BASE-X. Being different is okay, since the tolerance is specified elsewhere, but a pointer to the tolerance specification would be helpful.

SuggestedRemedy

Add "see clock tolerance specification in 40.6.1.2.6

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3.5** *P* **40-39** *L* **1** # **288**

Howard Frazier Cisco Systems, Inc.

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

In the immortal words of Colin K. Mick: "your state machines are ugly!"

Actually, they are quite nice for the most part, but the PCS transmit diagram could use some work to make it more readable.

SuggestedRemedy

Split the diagram into two parts, below the states Transmit Data, Error Check, and Transmit Error. Since only 4 arcs would cross this boundary, it would be easy to follow the split, and this would provide plenty of room for the diagram.

Also, remember that arcs are supposed to exit from the bottom of a state, and enter the top of a state.

I also suggest that you invent an abbreviation for symb_timer_done, since this term is used in just about all of the arcs. STD would be cute.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Clean up readability by changing to using aliases. Adds whitespace for readability. We believe there is value to keeping the entire state machine on one page.

Cl **40** *SC* **40.3.5** *P* **40-39** *L* **2** # **399**

David Law 3Com

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

The entry to the SEND IDLE/CARRIER EXTENSION state is shown as pcs_reset = ON + BEGIN yet pcs_reset cannot take the value BEGIN (see 40.3.4.1)

SuggestedRemedy

Suggest that text 'pcs_reset = ON + BEGIN' should read 'pcs_reset = ON'

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3.5** *P* **40-40** *L* **2** # **400**

David Law 3Com

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

The entry to the SEND IDLE/CARRIER EXTENSION state is shown as pcs_reset = ON + BEGIN yet pcs_reset cannot take the value BEGIN (see 40.3.4.1)

SuggestedRemedy

Suggest that text 'pcs_reset = ON + BEGIN' should read 'pcs_reset = ON'

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.4.5** *P* **40-47** *L* **42, 49 and** # **401**

David Law 3Com

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

As I have similarly commented about the PCS equivalents, I do not believe the PMA interface requires PMA_CARRIER.indicate nor PMA_RXERROR.indicate as these were repeater requirements for 100Mb/s only PHYs. As such both of these primitives can be removed.

SuggestedRemedy

Remove the primitives PMA_CARRIER.indicate and PMA_RXERROR.indicate.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.2** *P* **40-48** *L* **7 to 26** # **404**

David Law 3Com

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

The primitive PMA_TYPE.indicate is another 100Mb/s PHY only requirement. It was used to determine the source PHY type in 100Mb/s repeaters so that if the destination port was the same type, transparent repeating could take place if desired. If the source and destination port types did not match the repeater was forced into translating mode.

SuggestedRemedy

Delete the primitive PMA_TYPE.indicate and all associate text.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.3.1** *P* **40-54** *L* **6 to 14** # **410**

David Law 3Com

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

Is it correct that setting all of the test mode bits to one will enable both Test mode 4 and Test mode 3 at the same time. According to the table it will, 9.15 set enables Test Mode 4 and 9.14 & 9.13 set will enable Test Mode 3.

SuggestedRemedy

Suggest these bits be just defined as '9.15:13', called the test mode bits and reference subclause 40.6.1.1.2 where they should be decoded into the actual test modes.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.5.3** *P* **40-67** *L* **1-42** # **111**

Rich Seifert Networks and Commu

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

The use of long-winded text to explain the Master/Slave resolution appears unnecessary and confusing.

SuggestedRemedy

Replace these 8 paragraphs with either a state machine, or "truth-table" formulation of the resolution algorithm. Even pseudo-code would be better.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The editor will arrange for a state diagram or Truth table will be added.

Cl **40** *SC* **40.5.5.3** *P* **40-67** *L* **3** # **285**

Dan Essig Rockwell

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

The specified random seed range doesn't allow a simple LFSR circuit to be used.

SuggestedRemedy

Change "0 to 2^11 - 1" to "0 to 2^11 - 2".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.6.1.1.1** *P* **40-70** *L* **17** # **241**

Terry Cobb Lucent

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

The test channel should include a worst case delay skew.

SuggestedRemedy

Add "In addition at least two cable segments shall have a delay skew of 45 ns +/- 5 ns."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.6.1.1.1** *P* **40-70** *L* **19** # **279**

John Creigh Broadcom

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

It is impossible for a cable attenuation to meet the limits at all frequencies

SuggestedRemedy

On line 19 and 21, change to "...just meets 40.7.2.1 at at least one frequency in the range 1-100 MHz."

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change the sentence on line 18 to read

"... In which case x is chosen as large as possile so that the total attenuation ... All pairs, does not violate 40.7.2.1"

and similar change to line 21

Cl **40** *SC* **40.6.1.1.2** *P* **40-71** *L* **29** # **6**

Lawrence Rennie Mational Semi, LAN Di

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

The degree 11 polynomial specified in test mode 4 for the scrambler generator polynomial requires an 11 stage shift register to implement the sequences defined by this polynomial. Therefore, to be consistent with the mathematical nomenclature describing the PCS operational side-stream scrambler polynomials in par 40.3.1.3.1, and to correctly specify the number of bits stored in the shift register, the bits stored in the shift register delay line for the test mode 4 scrambler generator polynomial should be denoted by Scrn[10:0], not Scrn[11:0] . Also, for clarity, the tap points should be specified as Scrn[8] and Scrn[10] and a Figure added showing the specified LFSR implementation.
The tap points are currently not clearly specified.

SuggestedRemedy

CHANGE: D4.0, page 40-71, line 29: Scrn[11:0] to Scrn[10:0]

ADD: D4.0, page 40-71, add the following sentence to line 30: "Bits Scrn[8] and Scrn[10] are exclusive-Or'd together to generate the next Scrn[0] bit".

ADD: Add a Figure showing the LFSR implementation.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.6.1.1.2** *P* **40-70** *L* **38 to 52** # **414**

David Law 3Com

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

It is not clear what happens when an illegal combination is set in bits 9.15, 9.14 and 9.13. For example what happens if they are all set to one.

SuggestedRemedy

Suggest that all combinations except those already specified select Normal Operation.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

All combinations other than 0 to 4, define as reserved and operation is undefined.

Cl **40** *SC* **40.6.1.3.3** *P* **40-89** *L* **5** # **346**

Joel Goergen Ascend Communicatio

Comment Type **T** *Comment Status* **R**

Section 40.6.1.3.3
There needs to be a table or graph indicating the relationship of V/m to the Vpeak or Vrms output of the
signal generator.

Also, we don't indicate if we do or do not care about common mode noise rejection below 1mhz, yet we
reference frequencies above 100mhz to verify out-of-band. Note that Belcore GR-1089, section 3.3.1
references radiated immunity in the following manor:
10khz to 24khz - 10V/m
24khz to 120khz - changes from 10V/m to 2V/m
120khz to 10ghz - 2V/m

SuggestedRemedy

Provide a table to indicate the relationship of the coaxial test fixture to susceptability testing.

Proposed Response *Response Status* **C**

REJECT.

There does not need a table showning this because we have not agree that field strength is the criteria for the limits of the test.

Cl **40** *SC* **40.6.1.3.3** *P* **40-89** *L* **All Lines** # **4**

Sailesh K. Rao Level One Communica

Comment Type **T** *Comment Status* **X**

The Common Mode noise rejection test in this section is a novel test. It needs to be validated with supporting data on existing PHYs such as 100BASE-Tx and calibrated with respect to conventional tests (e.g., that required for 100BASE-Tx in Section 9.2.3 of ANSI X3.263).

SuggestedRemedy

Provide supporting data on the performance of current 100BASE-Tx products under this test and compare with that generated at UNH IOL for the same products to validate the test. Otherwise, replace this test with that required for 100BASE-Tx in Section 9.2.3 of ANSI X3.263.

Proposed Response *Response Status* **W**

See comment 267.

Cl **40** *SC* **40.6.1.3.4** *P* **40-90** *L* **7** # **246**

Terry Cobb Lucent

Comment Type **T** *Comment Status* **X**

It is not clear what this noise is to simulate, i.e. alien crosstalk, FEXT, or external. The level of noise is dependent on this.

SuggestedRemedy

The 25 mv p-p should be changed dependent on what you are trying to simulate and clarified.

Proposed Response *Response Status* **W**

See comment 267.

Cl **40** *SC* **40.6.1.4.1** *P* **40-90** *L* **36** # **250**

Terry Cobb Lucent

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

The start frequency should be consistent.

SuggestedRemedy

Change 2.0 MHz to 1.0 MHz.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.6.1.4.2** *P* **40-90** *L* **44** # **252**

Terry Cobb Lucent

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

The start frequency should be consistent.

SuggestedRemedy

Change 2.0 MHz to 1.0 MHz.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.7.2** *P* **40-93** *L* **27-28** # **203**

Rautenberg, Peter Alcatel Cabling Syste

Comment Type **T** *Comment Status* **R**

1000BASE-T is designed to operate over a 4-pair Category 5 cabling system, consisting of Category 5 components as specified in ISO/IEC 11801:1995. This standard equally allows 120 Ohm components, which have the specified electrical characteristics.

SuggestedRemedy

Replace sentence by
"Unless otherwise specified, link segment testing shall be conducted using source and load impedances of 100 Ohms (120 Ohms respectively)."

Proposed Response *Response Status* **C**

REJECT.

We are a valid subset of ISO/IEC 11801:1995. The system was designed around 100Ohm. Use of 120Ohm will severely effect the return loss and the corresponding echo. If 120Ohm support is desired then a proposal, proposed text and supporting evidence are required.

In addition, it is noted that the commenter does not even assert that this will work.

Cl **40** *SC* **40.7.2.1** *P* **40-93** *L* **37-38** # **204**

Rautenberg, Peter Alcatel Cabling Syste

Comment Type **T** *Comment Status* **R**

1000BASE-T is designed to operate over a 4-pair Category 5 cabling system, consisting of Category 5 components as specified in ISO/IEC 11801:1995. This standard equally allows 120 Ohm components, which have the specified electrical characteristics.

SuggestedRemedy

Replace sentence by
"The insertion loss specification shall be met when the duplex channel is terminated in 100 Ohms (120 Ohms respectively)."

Proposed Response *Response Status* **C**

REJECT.

See response to comment 203.

Cl **40** *SC* **40.7.2.2** *P* **40-93** *L* **42-43** # **205**

Rautenberg, Peter Alcatel Cabling Syste

Comment Type **T** *Comment Status* **R**

1000BASE-T is designed to operate over a 4-pair Category 5 cabling system, consisting of Category 5 components as specified in ISO/IEC 11801:1995. This standard equally allows 120 Ohm components, which have the specified electrical characteristics.

SuggestedRemedy

Replace sentence by
"The nominal differential characteristic impedance of each link segment duplex channel, which includes cable cords and connecting hardware is 100 Ohms or 120 Ohms for all frequencies between 1 MHz and 100 MHz."

Proposed Response *Response Status* **C**

REJECT.

See response to comment 203.

Cl **40** *SC* **40.7.2.3.1** *P* **40-94** *L* **16** # **206**

Rautenberg, Peter Alcatel Cabling Syste

Comment Type **T** *Comment Status* **R**

1000BASE-T is designed to operate over a 4-pair Category 5 cabling system, consisting of Category 5 components as specified in ISO/IEC 11801:1995. This standard equally allows 120 Ohm components, which have the specified electrical characteristics.

SuggestedRemedy

Replace sentence by
"The refernce impedance shall be 100 or 120 Ohms."

Proposed Response *Response Status* **C**

REJECT.

See response to comment 203.

Cl **40** *SC* **40.7.5** *P* **40-96** *L* **5** # **265**

Terry Cobb Lucent

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

The definition of noise needs to be expanded.

SuggestedRemedy

Use text from 100BaseT2 Page 222.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.8.3** *P* **40.98** *L* **14** # **320**

Geoff Thompson Bay Networks

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

Automatic MDI ->MDI-X is only optional.

SuggestedRemedy

Change text to read: Automatic MDI/MDI-X Configuration is intended to eliminate the need for crossover cables between similar devices. Implementation of an automatic MDI / MDI-X configuration is optional and recommended for 1000BASE-T devices. If an autom

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.8.3.1** *P* **40-98** *L* **14** # **9**

Robert Campbell Lucent Tech

Comment Type **T** *Comment Status* **R**

Currently the MDI/MDI-X Configuration is optional. I believe this is one of the major features of 1000BASE-T and should be a requirement. THis feature eleminates the need for crossover cables and identifing whether hub port provide the function.

SuggestedRemedy

Change `is optional for' to `shall be provided for all'.

Proposed Response *Response Status* **C**

REJECT.

We had a straw poll on this issue:-

Mand: 1
Optional: 7

Cl **40** *SC* **40.8.3.1.2** *P* **40-99** *L* **22 to 26** # **418**

David Law 3Com

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

Where does the variable T_Pulse originate, could it be from TD_AUTONEG variable defined in 28.3.1. The reason I ask is that I note that TD_AUTONEG is used on the transition MDI_MODE to MDI-X Mode in figure 40-34, the Auto Crossover state machine.

SuggestedRemedy

If TD_AUTONEG can be used substitute it for T_Pulse and change the variable definition to read 'TD_AUTONEG: This variable is defined in 28.3.1.'. If not please correct the transition from MDI_MODE to MDI-X MODE.

Proposed Response *Response Status* **C**

ACCEPT.

Also change the state machine.

Cl **40** *SC* **40.8.3.1.3** *P* **40-99** *L* **36** # **357**

Daniel Dove Hewlett Packard

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

The referenced "time N" is not explained and really un-necessary.

SuggestedRemedy

Delete "at time N".

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Rather than deleting will change the wording "at time N" to "at the same point in time"

Cl **40** *SC* **40.8.3.1.4** *P* **40-100** *L* **7** # **421**

David Law 3Com

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

It is not clear which reset this is referring to as it is not defined in the variable list.

SuggestedRemedy

Please define a new reset or use an existing reset such as pcs_reset or pma_reset.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Will use power_on = TRUE

Cl **40** *SC* **40A** *P* **40-135** *L* **5** # **275**

Charles Berestecky TIA TR41

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

There is much confusion in the market whether existing category 5 specifications are sufficient to support 1000BASE-T. It has to be made clear that existing category 5 specifications have been extended with additional parameters. For new installations it is desirable to provide guidelines for cabling systems that incorporate these additional parameters while also improving on existing category 5 parameters.

SuggestedRemedy

Proposal: On page 40-135, lines 5 through 8, replace the sentence starting with "Although "

"1000BASE-T is designed to operate over 4-pair twisted pair cabling systems that meet both the category 5 requirements described in ANSI/TIA/EIA-568-A, ISO/IEC 11801:1995 and the additional transmission parameters of return loss, ELFEXT loss, and MDELFEXT loss specified in clause 40.7. There are additional steps that may be taken by network designers that will provide additional operating margins and ensure that the objective BER of 10-10 is achieved. Cabling systems that meet or exceed the specifications in clause 40.7 for a worst case 4-connector topology are recommended for new installations. Specifications for these cabling systems are under development by TIA and ISO/IEC."

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to comment 135.

Cl **40** *SC* **40A** *P* **40-135** *L* **5** # **274**

Charles Berestecky TIA TR41

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

Proposal: On page 40-135, lines 5 through 8, replace the sentence starting with "Although "

"1000BASE-T is designed to operate over 4-pair twisted pair cabling systems that meet both the category 5 requirements described in ANSI/TIA/EIA-568-A, ISO/IEC 11801:1995 and the additional transmission parameters of return loss, ELFEXT loss, and MDELFEXT loss specified in clause 40.7. There are additional steps that may be taken by network designers that will provide additional operating margins and ensure that the objective BER of 10-10 is achieved. Cabling systems that meet or exceed the specifications in clause 40.7 for a worst case 4-connector topology are recommended for new installations. Specifications for these cabling systems are under development by TIA and ISO/IEC."

SuggestedRemedy

See above

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to comment 135.

Cl **40** *SC* **40A.1.1.2.1** *P* **40A.136** *L* **1** # **325**

Geoff Thompson Bay Networks

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

Re: ""TIA does not specify"" The last I looked neither did 11801. Why was that not mentioned?

SuggestedRemedy

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Will delete the text within the parentheses and add a comma.

Cl **40** *SC* **40A.1.1.3** *P* **40-136** *L* **16** # **272**

Terry Cobb Lucent

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

Maximum horizontal subsystem configuration does not include the transition connector.

SuggestedRemedy

Include transition connector.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **Annex 40B** *P* **40-138** *L* **50** # **352**

Robert Campbell Lucent Technologies

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

A comment from the previous meeting was to improve the return loss of the cable clamp closer to 20 dB.

SuggestedRemedy

In order to improve the return loss of the cable clamp it was necessary to change the dimensions of the clamp as well as the dielectric constant of the dielectric.
Page 137
Line 5: Change 51 mm and 46 mm to 58 mm and 54 mm, respectively.
Line 34: Change `Plexiglas' to `high density polyethlene'.
Line 40: Change `54mm' to `54 mm by 58 mm'.
Line 41: Change `Plexiglas dielectric' to `dielectric material'.
Line 43: Change `Plexiglas' to `High Density Polyethylene (Residual, TypeF)'.
Line 43: Change `2.8' to `2.32'.
Line 44: Change `1.0 inch (25.4 mm)' to `33.5 mm'.
Line 46: Change `10' to`9'.
Figure 40B-1: Change `46' to `54' and `51' to `58'.
Page 138
Line: 50: Change `10.0' to `20'.
Figure 40B-2: Change `23' to `27' (2 occurences).
Change `38' to `46'.
Change `51' to `58'.
Change `25.4' to `33.5'.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **Table 40-5** *P* **40-54** *L* **29** # **139**

Tam Ross Level One Communica

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

Andy Castellano's comment D3.0-9 requested that the ASM_DIR bit be moved from the 1000BASE-T registers to the Base Page. This was resolved as "accept in principle -- assigned to editor".
Draft 4.0 still lists bits 9.7 and 10.9 as ASM_DIR.

SuggestedRemedy

Change bit 9.7 to "Reserved"

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **42** *SC* **42.2** *P* **42-3** *L* **26** # **10**

Robert Campbell Lucent Tech

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

Suggest a statement concerning the use of a crossover cord be added to this section. Also other editorial changes are suggested.

SuggestedRemedy

- Line 30: Change `link' to 'segment lenghts shown in Table 42-1'.
- Add paragraph: For a network consisting of two 1000BASE-T DTEs as shown in Figure 42-3 a crossover cord may be required. See Clause 40.8 or 40.9.
- Figure 42-3: Should the reference to Table 42-2 really be 42-1 since Table 42-2 does not have a column labeled maximum segment length whereas Table 42-1 does.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor to implement.

Cl **00** *SC* **28.2.4.1.3** *P* *L* # **388**

David Law 3Com

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

Note this comment is against Clause 28 as it exists but I could not select clause 28 form the clause list above.
Suggest that 1000BASE-T finally perform the changes to subclause 28.2.4.1.3 as required by 32.5.4 that seem to have been accidentally left as part of Clause 32 even though they clearly marked as changes to Clause 28. The reason I suggest that 1000BASE-T should do these changes is that 1000BASE-T utilises these register and they are global and belong in Clause 28, not Clause 32.

SuggestedRemedy

Perform the changes to Clause 28 as detailed in 32.5.4 and delete the text from 32.5.4.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **00** *SC* **34.4** *P* *L* # **387**

David Law 3Com

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

Note this comment is against Caluse 34 as it exists but I could not select clause 34 form the clause list above.

Do we need to add a modification to subclause 34.4 to add a suggested row for 1000BASE-T for ISO/IEC11801 Table G1 and to Table 34-1 for an suggested entry for ISO/IEC11801 Table G.5

SuggestedRemedy

Add to 34.4 as required.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **01** *SC* *P* *L* # **13**

Steve Pryor Compaq

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

Typos, misspellings, inconsistent spellings, grammatical:

Page 1-1 Subclause 1.4.59 line 15 Missing space after IEEE
Page 1-1 Subclause 1.4.148 line 33 "A sublayer" should be "a sublayer"
Page 1-3 Subclause 1.4.xxx line 18 "code group" sometimes appears with a dash between and other times with a space. A global change to one format should be made.
Page 28B-1 line 34 Misspelled "connec5tion"
Page 28B-1 line 35 Misspelled "riection"
Page 28B-1 line 41 Missing a comma after the word "common"
Page 40-56 line 31 Missing a period at the end of the sentence.
Page 40-67 line 15 Change "10000BASE-T" to "1000BASE-T"
Page 40-69 line 29 Remove "connectorized with"

SuggestedRemedy

Remedies are included in the comments above

Proposed Response *Response Status* **C**

ACCEPT.

Cl **01** *SC* **1.4** *P* *L* # **389**

David Law 3Com

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

The change to code-group outlined here seems to be to a slightly earlier version of the definition to that published by 802.3z-1998. In 802.3z this reads code-group, not Code Group. In addition, in the consolidated edition of 802.3 this definition will be 1.4.70, 1.4.59 is Class I repeater. Suggest that numbers are not allocated in the draft and that this is done by the IEEE editor.

SuggestedRemedy

Suggest text should be changed from '1.4.59 Code Group: ...' to read '1.4.??? code-group ...'.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
We will harmonize the definitions

Cl **01** *SC* **1.4** *P* **1-2, 1-3** *L* # **67**

Rich Seifert Networks and Commu

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

No indication is given of what will happen to the "1.xxx" designations.

SuggestedRemedy

Include an editor's note indicating that all definitions will be renumbered as necessary for integration into IEEE 802.3.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **01** *SC* **1.4** *P* **1.3** *L* **15** # **301**

Geoff Thompson Bay Networks

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

Pair is called ""unshielded""

SuggestedRemedy

Change to ""balanced"""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **01** *SC* **1.4.148** *P* **1-1** *L* **34** # **66**

Rich Seifert Networks and Commu

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

SuggestedRemedy

Change "MII" to "MII or GMII".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **01** *SC* **1.4.148** *P* **1-1** *L* **35** # **194**

Steve Pryor — Compaq Computer Co

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

The data encoding technique used by 1000BASE-T has no abbreviation for use in general discussion and presentations of the technology. On the other hand, 100BASE-X and 1000BASE-X both have widely used abbreviations. These are 4B/5B and 8B/10B, respectively. Per the working group's agreement in February, the abbreviation 4B/1Q4 should be used and imbedded in the draft.

SuggestedRemedy

Change "data bits into code groups that" to
"data bits into code groups using an 8B/1Q4 data encoding technique. The code group"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **01** *SC* **1.4.148** *P* **1-1** *L* **37** # **142**

Bob Grow — XLNT

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

The change marks in a number of definitions are not correct for the current base document.

SuggestedRemedy

Correct change marks in 1.4.148, 1.4.149, 1.4.150 per 802.3z.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **01** *SC* **1.4.42** *P* **1-1** *L* **8** # **208**

Kosilek, Josef

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

Please delete the word UTP in the definition of category 5 balanced cabling.

SuggestedRemedy

The sentence should be:
1.4.42 Category 5 balanced cabling: Balanced 100 ohm and 120 ohm cables and associated connecting hardware .....

Proposed Response *Response Status* **C**

ACCEPT.

Cl **01** *SC* **1.4.59** *P* **1-1** *L* **21** # **141**

Bob Grow — XLNT

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

The last sentence of the definition is not appropriate. The definition section isn't the place to specify operation.

SuggestedRemedy

Delete the sentence "For 1000BASE-T the term code group applies to all normal modes..."

Proposed Response *Response Status* **C**

ACCEPT.
Will remove last sentence.

Cl **01** *SC* **1.4.59** *P* **1-1** *L* **22** # **210**

Shimon Muller — Sun Microsystems

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

Typos in the references:
1. A space is missing between "IEEE" and "802.3".
2. Clause 23 has been referred to twice.

SuggestedRemedy

Change the text in the parenthesys to read as follows:
"See IEEE 802.3 clauses 23, 24, 32, 36 and 40".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **01** *SC* **1.4.xxx** *P* **1-2** *L* **19** # **264**

John Creigh — Broadcom

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

There are a bunch of xxx's where I assume there should be numbers.

SuggestedRemedy

Replace xxx on page 1-2, lines 22,25,31,34,37,41,49 and page 1-3, lines 4,8,14,18 with appropriate numbers.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Numbers are to be inserted by the IEEE editor. A note to that effect will be inserted in the draft.

Cl **01** *SC* **1.4.xxx** *P* **1-2** *L* **21** # **195**

Steve Pryor Compaq Computer Co

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

The data encoding technique used by 1000BASE-T has no abbreviation for use in general discussion and presentations of the technology. On the other hand, 100BASE-X and 1000BASE-X both have widely used abbreviations. These are 4B/5B and 8B/10B, respectively. Per the working group's agreement in February, the abbreviation 4B/1Q4 should be used and imbedded in the draft.

SuggestedRemedy

Add the following definition:
1.4.xxx 8B/1Q4: The data encoding method used in 1000BASE-T. Each 8 bit pattern received on the GMII (8B) is converted to a code group of four quinary symbola (Q4) that are transmitted in parallel during one symbol period (1Q4).

Proposed Response *Response Status* **C**

ACCEPT.

Cl **01** *SC* **1.4.xxx** *P* **1-2** *L* **25** # **143**

Bob Grow XLNT

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

The six xxx definitions at this point are numbered in 802.3x&y.

SuggestedRemedy

Line 22 is 1.4.199
Line 25 is 1.4.202
Line 31 is 1.4.206
Line 34 is 1.4.207
Line 37 is 1.4.208
Line 41 is 1.4.209.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **01** *SC* **1.4.xxx** *P* **1-2** *L* **35** # **14**

Steve Pryor Compaq

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

The reference in parentheses doesn't exist in this draft. The reference says (See receiver training, blind mode).

SuggestedRemedy

If the referenced definition exists but is not included in this draft, then ignore this comment.
If the definition doesn't exist, then remove the parenthesized reference on line 35.

Proposed Response *Response Status* **C**

ACCEPT.
We will correct the citation.

Cl **22** *SC* **22.2.4** *P* **1-22** *L* # **149**

Bob Grow XLNT

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

Table 22-6 lists registers 9 and 10 and 100BASE-T2, they are now also defined for 1000BASE-T. Labeling the registers as 100BASE-T2 is misleading.

SuggestedRemedy

The registesr should probably be renamed, (perhaps to something like "Master/Slave Control Register") but that would likely cause multiple editorial changes to clause 32. The commenter is open to other potential solutions.

Proposed Response *Response Status* **C**

ACCEPT.
We will add a change to clause 22 modifying table 22-6

Cl **22** *SC* **22.4.3.7** *P* *L* # **383**

David Law 3Com

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

Suggest this subcluase be updated to reflect that Register 9 is used by both 100BASE-T2 and 1000BASE-T

SuggestedRemedy

Change subclause title to read '100BASE-T2/1000BASE-T Control register (register 9)'. Change subclause text 'Register 9 provides the bit values for 100BASE-T2 as specified in 32.5 or 1000BASE-T as specified in 40.5.3.1.'

Proposed Response *Response Status* **C**

ACCEPT.

Cl **22** *SC* **22.4.3.8** *P* *L* # **384**

David Law 3Com

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

Suggest this subcluase be updated to reflect that Register 10 is used by both 100BASE-T2 and 1000BASE-T

SuggestedRemedy

Change subclause title to read '100BASE-T2/1000BASE-T Control register (register 9)'. Change subclause text 'Register 10 provides the bit values for 100BASE-T2 as specified in 32.5 or 1000BASE-T as specified in 40.5.3.2.'

Proposed Response *Response Status* **C**

ACCEPT.

Cl **28B** *SC* *P* **28B-2** *L* **42,43** # **15**

Steve Pryor Compaq

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

Table 28B-3 incorrectly states the Local and Link Partner resolution for the bit pattern 1 1 0 1. The change below brings consistency between Table 28B-2, the wording below this table, and Table 28B-3.

Table 28B-2 states that when PAUSE is 0 and ASM_DIR is 1, Asymmetric PAUSE is toward the link partner. When PAUSE is 1 and ASM_DIR is 1, Asymmetric PAUSE is toward the local device. Therefore, when the local device has PAUSE=1 and ASM_DIR=1 while the link partner has PAUSE=0 and ASM_DIR=1, the resolution should be as documented below.

SuggestedRemedy

The local resolution should be
Enable PAUSE receive
Disable PAUSE transmit
The Link Partner Resolution should be
Enable PAUSE transmit
Disable PAUSE receive

Proposed Response *Response Status* **C**

ACCEPT.

Cl **28B** *SC* **28B.1** *P* **28B-1,** *L* **10** # **156**

Howard Signal Consulting, Inc.

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

It's not clear what has changed in Tables 28B-2, 28B-3, 28C-1. The Framemaker 'dif' operation does not work on tables.

SuggestedRemedy

Changes to existing clauses should carry the standard change instructions, and clearly demonstrate what is being changed. Unfortunately, these changes must be made by hand in tables and figures.

Listed below is what was used in 802.3z:

"The editing instructions are shown in bold italic. Four editing instructions are used: 'change', 'delete', 'insert', and 'replace'. 'Change' is used to make small corrections in existing text or tables. The editing instruction specifies the location of the change and describes what is being changed by strikethrough (to remove old material) and underscore (to add new material). 'Delete' removes existing material. 'Insert' adds new material without disturbing the existing material. Insertions may require renumbering. If so, renumbering instructions are given in the editing instruction. 'Replace' is used to make large changes in existing text, subclauses, tables, or figures by removing existing material and replacing it with new material. When modifications are made to paragraphs of existing text, deletions are shown in strikethrough type and additions are underscored. Editorial notes will not be carried over into future editions."

Proposed Response *Response Status* **C**

ACCEPT.
We will show changes to these tables

Cl **28B** *SC* **28B.2** *P* **28B-1** *L* **33-38** # **214**

Benjamin Brown Cabletron Systems, In

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

This information should match the exact wording from Clause 37.

SuggestedRemedy

Replace this paragraph with the second paragraph of 37.2.1.4. This is lines 1-5 on page 37.5 of D5.0.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **28B** *SC* **28B.2** *P* **28B-1** *L* **34,35** # **186**

David Law

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

"Typos, 'connec5tion' should be 'connection', 'rection' should be 'direction'."

SuggestedRemedy

See comment

Proposed Response *Response Status* **C**

ACCEPT.

Cl **28B** *SC* **28B.2** *P* **28B-1** *L* **34-35** # **211**

Shimon Muller Sun Microsystems

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

Typos.
The third sentence of the paragraph is confusing.

SuggestedRemedy

1. Replace "connec5tion" by "connection".
2. Replace "riection" by "direction".
3. Change the third sentence of the paragraph to read as follows:
"The value of the PAUSE bit, when the ASM_DIR bit is set, indicates the desired direction of the PAUSE frames' flow across the link".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **28B** *SC* **28B.3** *P* **28B-2** *L* **17-46** # **216**

Benjamin Brown Cabletron Systems, In

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

This information should match the exact wording from Clause 37.

SuggestedRemedy

Replace what was inserted at the end of the fourth paragraph of 28B.3 (the single line and the table) with the third sentence of the second paragraph of 37.2.4.2 (lines 51-52 of 37.7 in D5.0) and include Table 37-4 on 37.8. Fix the table reference in the sentence.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **28B** *SC* **28B.3** *P* **28B-1** *L* **41** # **185**

David Law

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

"Typo, existing comma deleted."

SuggestedRemedy

"Text should read '... in common, a …

Proposed Response *Response Status* **C**

ACCEPT.

Cl **28B** *SC* **28B.3** *P* **28B-2** *L* **5** # **266**

Dan Essig Rockwell

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

Sentence doesn't begin with a capital.

SuggestedRemedy

Change to "Full-duplex ..."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **28C** *SC* **28C-1** *P* **28C-1** *L* **33** # **152**

Bob Grow XLNT

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

The last row of Table 38C-1 is wrong. (As it also was in 802.3x&y.)
This is evidenced by the definition of Code# 8 for 1000BASE-T.

SuggestedRemedy

The reserved code points are intended to be 9 - 2047, 00000001001 through 11111111111

Proposed Response *Response Status* **C**

ACCEPT.

Cl **28C** *SC* **28C.10** *P* **28C-1** *L* **38** # **183**

David Law

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

While a new subclause is defined and its text provided there is no title for the subcluase.

SuggestedRemedy

"Suggest a tittle should be added for the subcluase, it should read' 28C.10 Message Code #8 - 1000BASE-T

Proposed Response *Response Status* **C**

ACCEPT.

Cl **28C** *SC* **28C.10** *P* **28C-1** *L* **41** # **184**

David Law

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

Suggest a better reference than 40.5 would be 40.5.1.1

SuggestedRemedy

see comment

Proposed Response *Response Status* **C**

ACCEPT.

Cl **28D** *SC* **28D.4** *P* **28D-1** *L* **31** # **154**

Bob Grow XLNT

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

The 1000 Mb/s capability bits are in register 15.

SuggestedRemedy

Change to read: "...MII Extended Status Register (22.2.4.4)."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.2.1.2** *P* **30-1** *L* **5** # **187**

David Law

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

"The change requested here has already been done, see approved 802.3z"

SuggestedRemedy

Remove requested change

Proposed Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.6.1.1.5** *P* **30-1** *L* **9** # **189**

David Law

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

"To mathc the rest of this subcluase the change should be modified, also there is a not that needs to be deleted from this subcluase."

SuggestedRemedy

Change to read 'Change 'to be specified in clause 40' ...' to '40' and delete associated footnote ...'

Proposed Response *Response Status* **C**

ACCEPT.

Cl **30B** *SC* **30B.2** *P* *L* # **382**

David Law 3Com

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

Two comments for AutoNegTechnology need to be updated by Clause 40.

SuggestedRemedy

Add to 40CH Clause 30, 'Change two instances in AutoNegTechnology of ' to be defined in Clause 40' to read ' as defined in Clause 40''

Proposed Response *Response Status* **C**

ACCEPT.

Cl **30B** *SC* **30B.2** *P* *L* # **385**

David Law 3Com

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

PhyTypeValue has note that 1000BASE-T is under development, this should be removed.

SuggestedRemedy

Add to 40CH Clause 30, 'Delete note associated with PhyTypeValue that states that 1000BASE-T is under development'.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **30B** *SC* **30B.2** *P* *L* # **386**

David Law 3Com

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

There are three instances of 'to be defined in clause 40' in TypeValue.

SuggestedRemedy

Add to 40CH Clause 30, 'Change two instances in TypeValue of '... to be defined in Clause 40' to read '... as specified in Clause 40''

Proposed Response *Response Status* **C**

ACCEPT.

Cl **34** *SC* **34.1.2** *P* *L* # **188**

David Law

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

"There is a note in subcluase 34.1.2 about 1000BASE-T being under development, this needs to be removed by Clause 40."

SuggestedRemedy

Change the text in 34.1.2 that reads 'Clause 40 (under development in 802.3ab)' to read simply 'Clause 40'

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40** *P* **40-5** *L* **15** # **172**

David Law

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

I believe that the GMII signal TX_EN is also used by the PHY Control function.

SuggestedRemedy

Suggest that TX_EN is also shown as going to the PHY CONTROL function.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
We will add this as part of the revision to Figure 40-3.

Cl **40** *SC* **40** *P* **40.1** *L* **4** # **302**

Geoff Thompson Bay Networks

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

Remove editor's notes or mark them as ""Editor's note, to be removed prior to publication:""

SuggestedRemedy

See above"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40** *P* **lots** *L* **lots** # **171**

David Law

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

Very editorial but to save work in the future I suggest you clarify with the IEEE editor if Clause should be capitalized or not.

SuggestedRemedy

Do what the IEEE editor says is the latest style.

Proposed Response *Response Status* **C**

ACCEPT.
As per the IEEE802.3 editor, the following will be used in 1000BASE-T
Clause
Figure
Table
half duplex
full duplex
signaling

Cl **40** *SC* **40..1.1** *P* **40-52** *L* **31,32** # **375**

Brad Booth Jato Technologies

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

Reference to GMII.

SuggestedRemedy

Remove "GMII"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40..1.1** *P* **40-52** *L* **45** # **376**

Brad Booth Jato Technologies

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

Reference to MII.

SuggestedRemedy

Change "... MII Register..." to "... management register..."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1** *P* **40-1** *L* **19** # **178**

David Law

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

The first paragraph under the SubClause heading Overview as written would traditional be sub-titled 'Scope'

SuggestedRemedy

Suggest first paragraph should be a subcluase titled '40.1.1 Scope'

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1** *P* **40-1** *L* **22-50** # **145**

Linda Cheng Sun Microsystems

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

The "C" in Category 5 is not capitalized in various places in the document: page 1, line 22 and 23; page 2, line 44; page 93, line 15.
In other places it is capitalized (page 93, lines 3,11,23).

SuggestedRemedy

Do a global search to replace category 5 with Category 5.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1** *P* **40-1** *L* **25** # **422**

John Payne

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

The last sentence is unnecessary at best and questionable at worst

SuggestedRemedy

REMOVE

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1** *P* **40-1** *L* **34** # **423**

John Payne

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

The reference to the November 1995 study group should be removed.

SuggestedRemedy

Either replace with "the following goals were used in the development of the standard..."

Or remove line 34 - 43 completely.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1** *P* **40-1** *L* **34-36** # **179**

David Law

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

This paragraph needs to be re-written with the history removed. I also suggest it should be titled objectives.

SuggestedRemedy

Replace paragraph with new subclause titled '40.1.2 Objectives', the paragraph should simply read 'The following are the objectives of 1000BASE-T'."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1** *P* **40-1** *L* **34-38** # **72**

Rich Seifert Networks and Commu

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

There is no need to provide a history lesson in the standard.

SuggestedRemedy

Change this paragraph to read "The following are the objectives of the 1000BASE-T PHY:" (delete the remainder of the paragraph).

Also, in list element (a), change "of 802.3z" to "(Clause 35)".

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **40** *SC* **40.1** *P* **40-1** *L* **34-38** # **212**

Shimon Muller Sun Microsystems

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

References to study groups, task forces and dates are irrelevant in an IEEE standard.

SuggestedRemedy

1. Replace the entire paragraph on lines 34-36 to read as follows:
"The following are the objectives of 1000BASE-T:"
2. On line 38 delete the reference to 802.3z.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1** *P* **40-1** *L* **37** # **180**

David Law

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

I believe the support of the 1000Mb/s MAC and repeater should be added to the objectives.

SuggestedRemedy

"Add the objectives 'Support the CSMA/CD MAC;', 'Support the 1000Mb/s repeater;'"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1** *P* **40-1** *L* **38** # **181**

David Law

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

Mention of 802.3z is not required and should be removed as it will become less relevant when consolidated editions of the standard are published.

SuggestedRemedy

Suggest objective should read 'Support the GMII

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1** *P* **40.1** *L* **38** # **304**

Geoff Thompson Bay Networks

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

Refers to GMII of 802.3z. z will not have a separate identity as soon as it is published in the consolidated edition. This and other text in this area needs to be edited to be more appropriate over the long haul.

SuggestedRemedy

Change to : ""...GMII as specified in clause 35."""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1** *P* **40-1** *L* **38-43** # **218**

Benjamin Brown Cabletron Systems, In

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

List needs cleanup.

SuggestedRemedy

Lines within a list should end in semi-colon (;)
The last line of a list should end in period (.)

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1** *P* **40-2** *L* **6** # **22**

Brad Booth Jato Technologies

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

"(Clause 28)" should be "(clause 28)"

SuggestedRemedy

Change to "(clause 28)"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.1** *P* **40-2** *L* **23-27** # **213**

Shimon Muller Sun Microsystems

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

During the 802.3z sponsor ballot we have decided to eliminate all the notes under the figures in the base standard and all the following clauses starting with 802.3u.

SuggestedRemedy

Delete the notes under figure 40-1.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.1** *P* **40-1** *L* **49** # **16**

Steve Pryor Compaq

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

The description of Figure 40-1 indicates a clause 4 MAC is connected to a clause 41 repeater. In actuality, the clause 4 MAC is connected to a clause 40 PHY when referring to 1000BASE-T.

A repeater simply implements several of the MAC/PHY relationships shown in Figure 40-1.

SuggestedRemedy

Change "clause 41 repeater" to "clause 40 PHY".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.1** *P* **40-1** *L* **49-51** # **74**

Rich Seifert Networks and Commu

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

The PHY can be used to connect two MACs as well as a MAC to a repeater. There is no need to discuss repeaters here. Also, if the clause does include variations of the configuration shown in Figure 40-1, then provide a forward pointer to the subclause being referred to. Finally, the last sentence is content-free.

SuggestedRemedy

In line 41, change "a clause 41 repeater" to "the medium".
Either include a forward reference to the variants, or include them in Figure 40-1 (preferred).
Delete the last sentence of the paragraph.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **40** *SC* **40.1.1** *P* **40-2** *L* **7** # **175**

David law

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

It is usual not to show the optional MAC CONTROL sublayer in these figures.

SuggestedRemedy

Add the optional MAC CONTROL sublayer above the MAC sublayer (See Figure 36-1 for an example).

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **40** *SC* **40.1.2** *P* **40-3** *L* **2** # **271**

Dan Essig Rockwell

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

Draft states "it performs loop timing, as illustrated in figure 40-3" but this is not clearly shown in the figure.

SuggestedRemedy

Add an arc in Figure 40-3 from the CLOCK RECOVERY block to the PMA TRANSMIT block.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.2** *P* **40-3** *L* **20** # **27**

Brad Booth Jato Technologies

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

Missing capitalization.

SuggestedRemedy

Change "figure" to "Figure"

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

As per the IEEE802.3 editor, the following will be used in 1000BASE-T
Clause
Figure
Table
half duplex
full duplex
signaling

Cl **40** *SC* **40.1.2** *P* **40-2** *L* **40** # **334**

Andy Castellano Broadcom

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

Set terminology is inconsistent with rest of document.

SuggestedRemedy

Change to "{-2,-1,0,+1,+2}" to "{2,1,0,-1,-2}"
Also change "{-2,0,2}" to "{2,0,-2}" on page 40-16 line 46 and page 40-18 line 8.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.2** *P* **40-2** *L* **45-52** # **76**

Rich Seifert Networks and Commu

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

There is no need for a history lesson in the standard. Also, Annex 28C is part of Clause 28. There is no need to reference it separately.

SuggestedRemedy

Delete the last two sentences of the first paragraph of this subclause (lines 45-48). Delete the reference to Annex 28C in line 52.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.2** *P* **40.2** *L* **46** # **306**

Geoff Thompson Bay Networks

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

Change ""PAM5 baseband signaling"" to ""PAM5X5 baseband signaling"" Also

SuggestedRemedy

delete the last sentence in this paragraph. Unecessary BS. ""friendly"" ??

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to comment 425.

Cl **40** *SC* **40.1.2** *P* **40-2** *L* **50** # **23**

Brad Booth Jato Technologies

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

Unnecessary dash between full and duplex.

SuggestedRemedy

Remove dash.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

As per the IEEE802.3 editor, the following will be used in 1000BASE-T
Clause
Figure
Table
half duplex
full duplex
signaling

Cl **40** *SC* **40.1.2** *P* **40-2** *L* **51** # **24**

Brad Booth Jato Technologies

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

Misspelling of "signaling"

SuggestedRemedy

Run spell checker. :-)

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
As per the IEEE802.3 editor, the following will be used in 1000BASE-T
Clause
Figure
Table
half duplex
full duplex
signaling

Cl **40** *SC* **40.1.2** *P* **40-2** *L* **52** # **25**

Brad Booth Jato Technologies

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

"wire-pairs" is referred to as "wire pairs" in the rest of the document

SuggestedRemedy

Remove dash.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.2** *P* **40-3** *L* **6** # **173**

David Law

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

Typo

SuggestedRemedy

Suggest 'figure 40-3 ...' should read 'Figure 40-3 …

Proposed Response *Response Status* **C**

ACCEPT.
As per the IEEE802.3 editor, the following will be used in 1000BASE-T
Clause
Figure
Table
half duplex
full duplex
signaling

Cl **40** *SC* **40.1.2** *P* **40-3** *L* **7** # **78**

Rich Seifert Networks and Commu

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

This is the first mention of PHY Control; no reference is provided. (Also, see later comments regarding PHY Control, re: 40.1.2.3.)

SuggestedRemedy

Show the PHY Control function in Figure 40-1, which eliminates the need for a forward reference.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
PHY CONTROL has been moved to the PMA section in response to other comments from you. We will attempt to meet the spirit of this comment within the framework of changes to PHY CONTROL made elsewhere.

Cl **40** *SC* **40.1.2** *P* **40-3** *L* **8** # **26**

Brad Booth Jato Technologies

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

Period in wrong spot.

SuggestedRemedy

Move period to after the closing bracket.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.2.1** *P* *L* **44** # **426**

John Payne

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

replace "coming" with "received"

SuggestedRemedy

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.2.1** *P* **40-5** *L* **44** # **430**

John Payne

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

Add "The" PCS Receive.....

SuggestedRemedy

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.2.1** *P* **40-3** *L* **45** # **196**

Steve Pryor Compaq Computer Co

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

The data encoding technique used by 1000BASE-T has no abbreviation for use in general discussion and presentations of the technology. On the other hand, 100BASE-X and 1000BASE-X both have widely used abbreviations. These are 4B/5B and 8B/10B, respectively. Per the working group's agreement in February, the abbreviation 4B/1Q4 should be used and imbedded in the draft.

SuggestedRemedy

Add a sentence:
"The process of converting data bits to code groups is called 8B/1Q4 which means 8 bits converted to one transmission of four quinary symbols."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.2.1** *P* **40-5** *L* **46** # **198**

Steve Pryor Compaq Computer Co

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

The data encoding technique used by 1000BASE-T has no abbreviation for use in general discussion and presentations of the technology. On the other hand, 100BASE-X and 1000BASE-X both have widely used abbreviations. These are 4B/5B and 8B/10B, respectively. Per the working group's agreement in February, the abbreviation 4B/1Q4 should be used and imbedded in the draft.

SuggestedRemedy

Change "GMII. PCS..." to
"GMII. The conversion of code groups to octets uses an 8B/1Q4 data decoding technique. PCS..."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.2.1** *P* **40-5** *L* **46** # **197**

Steve Pryor Compaq Computer Co

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

The data encoding technique used by 1000BASE-T has no abbreviation for use in general discussion and presentations of the technology. On the other hand, 100BASE-X and 1000BASE-X both have widely used abbreviations. These are 4B/5B and 8B/10B, respectively. Per the working group's agreement in February, the abbreviation 4B/1Q4 should be used and imbedded in the draft.

SuggestedRemedy

Change "GMII. PCS..." to
"GMII. The conversion of code groups to octets uses an 8B/1Q4 data decoding technique. PCS..."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.2.1** *P* **40-5** *L* **51** # **81**

Rich Seifert Networks and Commu

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

SuggestedRemedy

Change "The PCS interfaces to GMII ..." to "The PCS Service Interfaces to the GMII ...".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.2.1, general** *P* **40-3** *L* **53** # **79**

Rich Seifert Networks and Commu

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

There is no such mechanism as "packet bursting". It is called "frame bursting". This is a global comment.

SuggestedRemedy

Change all references to "packet bursting" to "frame bursting".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.3** *P* **40-6** *L* **43** # **32**

Thomas K. Joergensen Intel

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

The symbol pairs are called A, B, C and D, and not
BI_DA, BI_DB, BI_DC and BI_DD as everywhere else in the text.

SuggestedRemedy

Change line 43 to read:

e) no correlation between symbol streams on pairs BI_DA, BI_DB, BI_DC and BI_DD.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.3** *P* **40-6** *L* **44** # **17**

Steve Pryor Compaq

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

References to "ternary" in relation to 1000BASE-T transmission have been removed from all parts of the document except two places. This reference is describing idle transmission. However, idle transmission is actually a subset of the quinary transmission instead of something unique from the normal quinary transmissions.

The other removal of ternary is covered in another comment.

SuggestedRemedy

Change
"ternary symbol mapping in idle mode"
to
"idle mode uses a subset of code groups in that each symbol is restricted to the set {2, 0, -2}"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.3** *P* **40.7** *L* **5** # **309**

Geoff Thompson Bay Networks

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

Editorial convention is that a figure is anchored to the first reference to it thus the reference here to figure 40-5 is out of order. Some editor in the future is likely to more the figure and end up renumbering your figures as a result.

SuggestedRemedy

Suggest that you say ""see the PCS reference diagram in 40.3""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.4.3** *P* **40-7** *L* **26** # **190**

David Law 3Com

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

"The text reads'... including parameterized values in 4.4.2.3 that ...'. Subclause 4.4.2.3 specifies the parameters for 100Mb/s operation, hence this is an incorrect reference, should refer to 4.4.2.4."

SuggestedRemedy

Change text '... including parameterized values in 4.4.2.3 that ...' to read '... including parameterized values in 4.4.2.4 that ...'

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.4.3** *P* **40-7** *L* **27** # **29**

Brad Booth Jato Technologies

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

Unnecessary text.

SuggestedRemedy

Remove the last two paragraphs of 40.1.4.3.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.4.4** *P* **40-7** *L* **33** # **30**

Brad Booth — Jato Technologies

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

No such thing as half Auto-Negotiation.

SuggestedRemedy

Remove the word "Full". :-)

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.5** *P* **40-7** *L* **37** # **159**

David Law

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

"The text reads '... and its associated annexes contain state diagrams, ...'. I cannot find any Clause 40 annexes with state diagrams, if this is correct please remove the mention of annexes from this sentence."

SuggestedRemedy

"Suggest that '... and its associated annexes contain state diagrams, ...' should read '... contains state diagrams, ...'"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.6** *P* **40-8** *L* **19** # **31**

Brad Booth — Jato Technologies

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

Don't need to refer to the draft as an "international standard"

SuggestedRemedy

Change sentence to read:
"Default initializations, unless specified, are left to the implementor.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.6** *P* **40-7,** *L* **41-53** # **215**

Shimon Muller — Sun Microsystems

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

This entire subclause is completely redundant, since it repeats the definitions that have already been specified in clause 1.

SuggestedRemedy

Delete the entire subclause 40.1.6.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.6** *P* **40-7** *L* **43** # **390**

David Law — 3Com

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

Suggest that the term code-group is used rather than Code Group as this would be consistent with the rest of 802.3.

SuggestedRemedy

Globally search and replace Code Group with code-group.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **40** *SC* **40.1.6** *P* **40-7** *L* **43 to 53** # **391**

David Law — 3Com

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

The text here seems to be a duplication of the definitions added to 1.4 in 40CH.1 - Changes to Clause 1 (See Page 1-2, lines 49 to 51, Page 1-3, lines 1 to 19).

SuggestedRemedy

If it is not necessary to duplicate the definitions delete the entire subclause 40.1.6.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **40** *SC* **40.1.6** *P* **40-7** *L* **45** # **199**

Steve Pryor — Compaq Computer Co

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

The data encoding technique used by 1000BASE-T has no abbreviation for use in general discussion and presentations of the technology. On the other hand, 100BASE-X and 1000BASE-X both have widely used abbreviations. These are 4B/5B and 8B/10B, respectively. Per the working group's agreement in February, the abbreviation 4B/1Q4 should be used and imbedded in the draft.

SuggestedRemedy

Add the sentence:
"During data mode, each 8 bits is converted to a code group using an 8B/1Q4 data encoding technique that includes scrambling and encoding of the data."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.1.6** *P* **40-7** *L* **48** # **158**

David Law

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

"The text reads'... TX_EN is set FALSE ...'. Clause 35, the GMII clause, defines the GMII signals in terms of asserted and negated rather than TRUE and FALSE (see 35.2.2.3). Either change Clause 40 to match Clause 35 (not recommended) or we should add text defining this mapping."

SuggestedRemedy

"I suggest we should add text copied from 36.2.1 to subclause 40.3.2.1. The text would read 'In this clause setting of the GMII variables to TRUE and FALSE is equivalent, respectively, to 'asserting' or de-asserting' them as specified in Clause 35.' Note that I have submitted another comment on 40.3.2.1 that also includes adding this text."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.10.4** *P* **40-103** *L* **29** # **209**

Kosilek, Josef

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

Please complete the reference to the international standard with the associated year of publishing.

SuggestedRemedy

The sentence should be:
All equipement subject to this clause shall conform to the requirements of 14.7 and applicable sections of
ISO/IEC 11801:1995.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.13.4** *P* **40-110** *L* **15** # **40**

Keith Balmer Texas Instruments Ltd

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

PC3 requires messages to be synchronous with every GMII TX_CLK but the corresponding text in 40.2.2.1.2 requires messages to be synchronous with every GMII RX_CLK.

SuggestedRemedy

(Assuming 40.2.2.1.2 is correct) Change TX_CLK to RX_CLK.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.13.4** *P* **40-110** *L* **17** # **51**

Keith Balmer Texas Instruments Ltd

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

The PC4 primitive should have a ".indicate" on the end.

SuggestedRemedy

Change "PHYC_CONFIG" to "PHYC_CONFIG.indicate".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.13.4** *P* **40-110** *L* **23** # **41**

Keith Balmer Texas Instruments Ltd

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

PC5 requires messages to be synchronous with every GMII TX_CLK but the corresponding text in 40.2.2.2.2 requires messages to be synchronous with every GMII RX_CLK.

SuggestedRemedy

(Assuming 40.2.2.2.2 is correct) Change TX_CLK to RX_CLK.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.13.4** *P* **40-110** *L* **38** # **345**

Andy Castellano Broadcom

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

Support column has "Y[]" when all of the previous rows have used "Yes[]"

SuggestedRemedy

Change "Y[]" to "Yes[]" from here to page 40-134.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.13.4** *P* **40-110** *L* **39** # **46**

Keith Balmer Texas Instruments Ltd

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

Missing "S" from "PHYC_REMRXSTATUS".

SuggestedRemedy

Change "PHYC_REMRXTATUS" to "PHYC_REMRXSTATUS"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.13.5.1** *P* **40-113** *L* **31** # **48**

Keith Balmer — Texas Instruments Ltd

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

PCR2 appears to be refering to the shall on 40-31 line 4. If so the subclause number needs a ".1" appending to it.

SuggestedRemedy

Change "40.3.1.4" to 40.3.1.4.1"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.13.5.2** *P* **40-114** *L* **16** # **49**

Keith Balmer — Texas Instruments Ltd

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

PC02 and PCO3 appear to be refering to the same "shall" in 40.3.1.5.

SuggestedRemedy

Remove PC03.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.13.5.2** *P* **40-114** *L* **24** # **50**

Keith Balmer — Texas Instruments Ltd

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

PCO5's Value/Comment wording is intended to carry on the sentence from the Feature field.

SuggestedRemedy

Change "remain de-asserted." to "remain de-asserted while"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.2** *P* **40.9** *L* **5** # **313**

Geoff Thompson — Bay Networks

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

Grammar error

SuggestedRemedy

Change: ""...bring the PHY in a mode..."" to: ""...bring the PHY into a mode..."""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.2.1** *P* **40-9** *L* **15** # **53**

Brad Booth — Jato Technologies

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

Wording is a bit confusing.

SuggestedRemedy

Changed to read:
"In SLAVE mode, PHY Control transitions to the TRAINING state only after the SLAVE PHY sets loc_rcvr_status=SCR_OK. To set loc_rcvr_status=SCR_OK, the SLAVE PHY converges its DFE, acquires timing and acquires its descrambler state."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.2.1** *P* **40-9** *L* **19** # **54**

Brad Booth — Jato Technologies

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

Replace "this" with the state name.

SuggestedRemedy

Changed to read:
"... convergence functions in the TRAINING state."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.2.1** *P* **40-9** *L* **20** # **55**

Brad Booth — Jato Technologies

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

"in" should be "into"

SuggestedRemedy

Changed to read:
"... transmission into the idle mode..."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.2.1** *P* **40-9** *L* **22** # **18**

Steve Pryor Compaq

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

References to "ternary" in relation to 1000BASE-T transmission have been removed from all parts of the document except two places. This reference is describing a special encoding of loc_rcvr_status into any transmissions other than during data mode. These transmissions don't have to be ternary.

In addition, the encoding of loc_rcvr_status is buried in a formula on page 40-21. A reference to the formula would help clarify what is meant by "PCS Transmit conveys this information to the link partner...".

The other removal of ternary is covered in another comment.

SuggestedRemedy

1) Remove the word ternary from line 22
Change: "via ternary transmission" to "via transmission"
2) Add a reference to the formula that shows how loc_rcvr_status is encoded.
Change "parameter loc_rcvr_status" to
"parameter loc_rcvr_status (see Sdn[2] in 40.3.1.3.4)"
Also note that the n in Sdn should be a subscript.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.2.1** *P* **40-9** *L* **22** # **56**

Brad Booth Jato Technologies

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

a little confusing starting with "When the min-wait timer..."

SuggestedRemedy

Changed to read:
"The link partner's value for loc_rcvr_status is stored in the local device parameter rem_rcvr_status. When the minwait_timer expires and the condition loc_rcvr_status=OK is satisfied, PHY Control transitions into either the SEND IDLE OR DATA state if rem_rcvr_status=OK or the SEND IDLE state if rem_rcvr_status=NOT_OK."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.2.1** *P* **40-9** *L* **220** # **43**

Keith Balmer Texas Instruments Ltd

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

On line 23 reference is made to the minwait-timer expiring, but there is no mention of it being started.

SuggestedRemedy

on line 20 change "Upon entering the TRAINING state," to
"Upon entering the TRAINING state the minwait_timer is started and"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.2.1** *P* **40-9** *L* **31** # **57**

Brad Booth Jato Technologies

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

the word "mode" doesn't fit

SuggestedRemedy

Changed to read:
"... idle transmission takes place."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.2.1** *P* **40-9** *L* **33** # **44**

Keith Balmer Texas Instruments Ltd

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

All state transitions in the paragraph beginning line 33 are conditional upon minwait_timer having expired according to figure 40-4. The text of this paragraph does not reflect this.

SuggestedRemedy

To line 27 append "and the minwait_timer is started" to the end of the sentence.

Insert "and minwait_timer has expired" on line 34 after (loc_rcvr_status=NOT_OK)

Insert "and minwait_timer has expired" on line 36 after (rem_rcvr_status=NOT_OK)

Insert "and minwait_timer has expired" on line 39 after (rem_rcvr_status=NOT_OK)

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.2.1** *P* **40-9** *L* **34** # **58**
Brad Booth Jato Technologies

Comment Type **E** *Comment Status* **A**
"(if any)" not required

SuggestedRemedy
Remove.

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

Cl **40** *SC* **40.2.1** *P* **40-9** *L* **5** # **52**
Brad Booth Jato Technologies

Comment Type **E** *Comment Status* **A**
"in" should be "into"

SuggestedRemedy
Changed to read:
"... to bring the PHY into a mode of operation..."

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

Cl **40** *SC* **40.2.1** *P* *L* **9** # **432**
John Payne

Comment Type **E** *Comment Status* **A**
Replace 1st and 2nd sentences with "During Auto-Negotiation, PHY Control is in the DISABLE 1000BASE-T TRANSMITTER state and the transmitters are disabled.

SuggestedRemedy

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

Cl **40** *SC* **40.2.2** *P* **40-10** *L* **7** # **392**
David Law 3Com

Comment Type **E** *Comment Status* **A**
The reference to 40.4.2.4 seems to be incorrect.

SuggestedRemedy
Suggest ' in 40.4.2.4.' should read ' in 40.4.5.5.'

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

Cl **40** *SC* **40.2.2.2.1** *P* **40-10** *L* **49** # **222**
Benjamin Brown Cabletron Systems, In

Comment Type **E** *Comment Status* **A**
Replace "an GMII" with "a GMII"

SuggestedRemedy

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

Cl **40** *SC* **40.2.2.2.2** *P* **40-11** *L* **3** # **223**
Benjamin Brown Cabletron Systems, In

Comment Type **E** *Comment Status* **A**
Is GMII RX_CLK the correct clock for this signal?

SuggestedRemedy
Replace "GMII RX_CLK" with "GMII TX_CLK"

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

Cl **40** *SC* **40.2.2.3.2** *P* **40-11** *L* **35** # **42**
Keith Balmer Texas Instruments Ltd

Comment Type **E** *Comment Status* **A**
".. in order to avoid that a transition from data...." reads rather strangely.

SuggestedRemedy
Replace "avoid that" with "prevent".

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

Cl **40** *SC* **40.2.2.4** *P* **40-11** *L* **45** # **45**
Keith Balmer Texas Instruments Ltd

Comment Type **E** *Comment Status* **A**
Is the reference to "loc_rcvr_status" a typo?
Should this be "rem_rcvr_status"?

SuggestedRemedy
Change "loc_rcvr_status" to "rem_rcvr_status"?

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

Cl **40** *SC* **40.2.2.4** *P* **40-11** *L* **45** # **148**

Linda Cheng — Sun Microsystems

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

The statement "The criterion for setting the parameter loc_rcvr_status is left to the implementor. It can be based, for example, on observing the ..... that represent the idle mode" should be placed with the rest of the loc_rcvr text and with the PHYC_RXSTATUS.request explanation, not the PHYC_REMRXSTATUS.request explanation.

SuggestedRemedy

Move the last two sentences of 40.2.2.4 to section 40.2.2.3.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
These two sentences do refer to PHYC_REMRXSTATUS.request and will be modified to reflect this.

Cl **40** *SC* **40.2.3** *P* **40-12** *L* **18** # **361**

Brad Booth — Jato Technologies

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

link_control is also defined in 40.4.5.5.

SuggestedRemedy

remove this definition.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3** *P* **40-15** *L* **13-45** # **362**

Brad Booth — Jato Technologies

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

Figure 40-5 should use message names, not variable names.

SuggestedRemedy

Change:
tx_symb_vector to PMA_UNITDATA.request(tx_symb_vector)
link_status to PMA_LINK.indicate(link_status)
tx_mode to PHYC_TXMODE.indicate(tx_mode)
etc.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3.1.3** *P* **40-16** *L* **34** # **200**

Steve Pryor — Compaq Computer Co

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

The data encoding technique used by 1000BASE-T has no abbreviation for use in general discussion and presentations of the technology. On the other hand, 100BASE-X and 1000BASE-X both have widely used abbreviations. These are 4B/5B and 8B/10B, respectively. Per the working group's agreement in February, the abbreviation 4B/1Q4 should be used and imbedded in the draft.

SuggestedRemedy

Change "octet is encoded into a" to
"octet is encoded using an 8B/1Q4 technique into a"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3.1.3** *P* **40-16** *L* **42-50** # **363**

Brad Booth — Jato Technologies

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

Use message names, not variable names.

SuggestedRemedy

Change:
"If tx_mode=SEND_Z is asserted,..." to "If PHYC_TXMODE.indicate message has the value SEND_Z,..."
"If tx_mode=SEND_I is asserted,..." to "If PHYC_TXMODE.indicate message has the value SEND_I,..."
"... tx_mode is assigned..." to "... PHYC_TXMODE.indicate is assigned..."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3.1.3** *P* **40-16** *L* **52** # **201**

Steve Pryor — Compaq Computer Co

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

The data encoding technique used by 1000BASE-T has no abbreviation for use in general discussion and presentations of the technology. On the other hand, 100BASE-X and 1000BASE-X both have widely used abbreviations. These are 4B/5B and 8B/10B, respectively. Per the working group's agreement in February, the abbreviation 4B/1Q4 should be used and imbedded in the draft.

SuggestedRemedy

Change "data, the" to
"data, an 8B/1Q4 encoding method is used to GMII data bits to code groups. The"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3.1.3.1** *P* **40-17** *L* **42-50** # **364**

Brad Booth — Jato Technologies

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

Use message names, not variable names.

SuggestedRemedy

Change:
"If config = SLAVE..." to "If the PHYC_CONFIG.indicate message assumes the value SLAVE..."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3.1.3.3** *P* **40-19** *L* **44** # **33**

Thomas K. Joergensen — Intel

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

The reference to 40.4.1.2.2 is wrong. It should be 40.3.1.3.2

SuggestedRemedy

Change reference to 40.3.1.3.2

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3.1.3.4** *P* **40-20** *L* **51** # **34**

Thomas K. Joergensen — Intel

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

Line 51 is misplaced. It should be moved to page 40-21 line 13.

SuggestedRemedy

Move line 51 to page 40-21 line 13.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3.1.3.4** *P* **40-20** *L* **52** # **47**

Keith Balmer — Texas Instruments Ltd

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

This sentence is misplaced relative to the equations.

SuggestedRemedy

Move to page 40-21 line 13.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3.1.4.1** *P* **40-30** *L* **30** # **396**

David Law — 3Com

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

Text reads '... asserts the parameter receiving ...' yet a parameter should be assigned a value (see line 33 below for an example).

SuggestedRemedy

Suggest that text '... asserts the parameter receiving ...' should read '... assigns the value TRUE to the parameter receiving ...'

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3.1.4.1** *P* **40-30** *L* **43-50** # **144**

Linda Cheng — Sun Microsystems

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

Packet bursting is not mentioned in the chapter. I think it should be described in the text how that is supported.

SuggestedRemedy

Add text describing series of events when packets are sent and received by packet bursting.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **40** *SC* **40.3.1.4.1** *P* **40-30** *L* **44** # **19**

Steve Pryor — Compaq

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

The reference to 40.4.1.2 is invalid. This subclause doesn't exist.

SuggestedRemedy

Change "40.4.1.2" to "40.3.1.3.5".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3.1.4.1** *P* **40-30** *L* **44** # **35**

Thomas K. Joergensen — Intel

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

Reference to 40.4.1.2. It should be 40.3.1.3

SuggestedRemedy

Change reference to 40.3.1.3

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3.1.6** *P* **40-31** *L* **43** # **398**

David Law 3Com

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

The text states '... the Transmit process depicted in 40-8 ...' yet 40-8 is the Transmit Enable process. As this subclause relates to collisions I guess this reference should be to 40-9.

SuggestedRemedy

Suggest text '... the Transmit process depicted in 40-8 ...' should read '... the Transmit process depicted in 40-9 ...'

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3.2.1** *P* **40-32** *L* **3-31** # **92**

Rich Seifert Networks and Commu

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

This entire subclause is just a repetition from Clause 35. It provides no value to repeat it here. Indeed, if we ever have to change it, it will require changing two tables instead of one.

SuggestedRemedy

Delete the entire subclause.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to comment 165.

Cl **40** *SC* **40.3.2.1** *P* **40-32** *L* **6** # **164**

David Law

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

The Jabber detect function defined in clause 22 already states that 'PHYs specified for 100Mb/s operation or above do not incorporate a Jabber Detect function ... ... shall always return a value of zero in bit 1.1' hence I do not think we really need the second sentence of this subclause.

SuggestedRemedy

Delete second sentence of SubClause 40.3.2.1

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3.2.1** *P* **40-32** *L* **6** # **163**

David Law

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

"The Jabber detect detection function is defined in 22.2.4.2.14, not 22.2.4.2.12 as stated."

SuggestedRemedy

Change text to read '... as specified in 22.2.4.2.14 is …

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3.2.2** *P* **40-32** *L* **34-37** # **93**

Rich Seifert Networks and Commu

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

The paragraph provides no information, and is just a pointer to another Clause.

SuggestedRemedy

Delete the entire paragraph.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to comment 165.

Cl **40** *SC* **40.3.2.3** *P* **40-32** *L* **45** # **165**

David Law

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

"I do not believe that Clause 35 defines the 'Electrical characteristics of the signals passing between the PCS and the GMII'. What it does define is the Electrical interface of the GMII which, to quote 36.2.1 PCS Interface (GMII) says 'The PCS Service Interface (ie the GMII) allows the 1000BASE-X PCS to transfer information to and from a PCS client."

SuggestedRemedy

Replace the entire subclause 40.3.2, and all its SubClause with equivalent text to 36.2.1. This would read something like '40.3.2 PCS Interface (GMII)', 'The PCS Service Interface allows the 1000BASE-T PCS to transfer information to and from the PCS clients including the MAC (via the Reconciliation sublayer) and repeater. The PCS Interface is precisely defined as the Gigabit Media Independent Interface (GMII) in Clause 35.' I would also include the mapping between True and False here (see my other comment on this subject) for the GMII signals, again coping from 36.2.1 the text would read 'In this clause setting of the GMII variables to TRUE and FALSE is equivalent, respectively, to 'asserting' or de-asserting' them as specified in Clause 35."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3.3** *P* **40-32** *L* **48** # **166**

David Law

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

"As this subclause is part of the PCS subclause the title does not make it entirely clear which PCS interface, GMII or PCS/PMA the frame structure is referring to, please clarify."

SuggestedRemedy

Suggest subclause title should be changed to read '40.3.3 PMA Interface Frame Structure'

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3.4.1** *P* **40-35** *L* **1** # **335**

Andy Castellano Broadcom

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

link_status can only take on the values OK and FAIL in 1000Base-T.

SuggestedRemedy

Delete "READY". Remove also on page 40-46 Line 14 and page 40-50 lines 27 & 31.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3.4.1** *P* **40-36** *L* **15** # **235**

Benjamin Brown Cabletron Systems, In

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

Give full subclause

SuggestedRemedy

Replace "clause 35" with "35.2.2.3"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3.4.1** *P* **40-36** *L* **18** # **236**

Benjamin Brown Cabletron Systems, In

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

Give full subclause

SuggestedRemedy

Replace "clause 35" with "35.2.2.5"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3.4.1** *P* **40-36** *L* **28** # **368**

Brad Booth Jato Technologies

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

Definition doesn't match that in 40.4.5.3.1.

SuggestedRemedy

Change SYMB_QUARTET to SYMB_4D.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **40** *SC* **40.3.4.1** *P* **40-35** *L* **37** # **231**

Benjamin Brown Cabletron Systems, In

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

Give full subclause

SuggestedRemedy

Replace "clause 35" with "35.2.2.6"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3.4.1** *P* **40-34** *L* **4** # **230**

Benjamin Brown Cabletron Systems, In

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

Give full subclause

SuggestedRemedy

Replace "clause 35" with "35.2.2.9"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3.4.1** *P* **40-35** *L* **40** # **232**

Benjamin Brown Cabletron Systems, In

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

Give full subclause

SuggestedRemedy

Replace "clause 35" with "35.2.2.8"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.3.4.1** *P* **40-35** *L* **42** # **367**
Brad Booth Jato Technologies

Comment Type **E** *Comment Status* **A**
Definition doesn't match that in 40.4.5.4.1.

SuggestedRemedy
Change SYMB_QUARTET to SYMB_4D.

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

Cl **40** *SC* **40.3.4.1** *P* **40-33** *L* **49** # **229**
Benjamin Brown Cabletron Systems, In

Comment Type **E** *Comment Status* **A**
Give full subclause

SuggestedRemedy
Replace "clause 35" with "35.2.2.10"

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

Cl **40** *SC* **40.3.4.1** *P* **40-35** *L* **49** # **233**
Benjamin Brown Cabletron Systems, In

Comment Type **E** *Comment Status* **A**
Give full subclause

SuggestedRemedy
Replace "clause 35" with "35.2.2.7"

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

Cl **40** *SC* **40.3.4.1** *P* **40-35** *L* **6** # **167**
David law

Comment Type **E** *Comment Status* **A**
The values for loc_rcvr_status do not match those defined in 40.2.2.3.1 for the loc_rcvr_status parameter.

SuggestedRemedy
"Suggest that the values should be OK, NOT_OK and SCR_OK"

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

Cl **40** *SC* **40.3.4.1** *P* **40-36** *L* **6** # **234**
Benjamin Brown Cabletron Systems, In

Comment Type **E** *Comment Status* **A**
Give full subclause

SuggestedRemedy
Replace "clause 35" with "35.2.2.4"

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

Cl **40** *SC* **40.3.4.2** *P* **40-36** *L* **48** # **237**
Benjamin Brown Cabletron Systems, In

Comment Type **E** *Comment Status* **A**
No such clock as TX_TCLK

SuggestedRemedy
Replace "TX_TCLK" with "GTX_CLK"

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

Cl **40** *SC* **40.3.4.3** *P* **40-37** *L* **10** # **369**
Brad Booth Jato Technologies

Comment Type **E** *Comment Status* **A**
Create an alias for PMA_UNITDATA.request and use in state diagrams.

SuggestedRemedy
see above...

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

Propose PUDR

Cl **40** *SC* **40.3.5** *P* **40-42** *L* **10** # **238**
Benjamin Brown Cabletron Systems, In

Comment Type **E** *Comment Status* **A**
Transition condition from state CARRIER SENSE ON to state CARRIER SENSE OFF is incorrect

SuggestedRemedy
Replace "receiving=TRUE" with "receiving=FALSE"

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

Cl **40** *SC* **40.3.5** *P* **40-39** *L* **all** # **370**
Brad Booth Jato Technologies

Comment Type **E** *Comment Status* **R**
State diagram is hard to read.

SuggestedRemedy
Split state diagram onto 2 pages.

Proposed Response *Response Status* **C**
REJECT.
While the state machine diagram is dense, we feel that splitting it into two parts would introduce more complexity than would be gained by providing more spacing between elements.

Cl **40** *SC* **40.4.1** *P* **40-43** *L* **11-37** # **371**
Brad Booth Jato Technologies

Comment Type **E** *Comment Status* **A**
Use messages/primitives instead of variables.

SuggestedRemedy
Replace variables.

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

Cl **40** *SC* **40.4.2** *P* **40-43** *L* **42** # **336**
Andy Castellano Broadcom

Comment Type **E** *Comment Status* **A**
There are only four functions.

SuggestedRemedy
Change "five" to "four".

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

Cl **40** *SC* **40.4.2** *P* **40-43** *L* **43** # **239**
Benjamin Brown Cabletron Systems, In

Comment Type **E** *Comment Status* **A**
There are only 4 PMA operating functions

SuggestedRemedy
Replace "five simultaneous" with "four simultaneous"

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

Cl **40** *SC* **40.4.2** *P* **40-43** *L* **43** # **36**
Thomas K. Joergensen Intel

Comment Type **E** *Comment Status* **A**
"...Reset function and five simultaneous...". In the line below only four functions are mentioned.

SuggestedRemedy
Change text to "...Reset function and four simultaneous..."

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

Cl **40** *SC* **40.4.4.1** *P* **40-46** *L* **7** # **3**
Sailesh K. Rao Level One Communica

Comment Type **E** *Comment Status* **A**
Forward reference to link_control parameter definition in 40.4.5.5.

SuggestedRemedy
Copy text from Section 40.4.5.5.1 and define link_control parameter explicitly in Section 40.4.4.1.

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

Cl **40** *SC* **40.4.4.2** *P* **40-46** *L* **35** # **273**
Dan Essig Rockwell

Comment Type **E** *Comment Status* **A**
Font - need a "mu" instead of a "u".

SuggestedRemedy
Change us to "mu"s

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

Cl **40** *SC* **40.4.4.3** *P* **40-47** *L* **25** # **277**
John Creigh Broadcom

Comment Type **E** *Comment Status* **A**
There are a couple extraneous link_control_[HCD}=disable 's in the figure.

SuggestedRemedy
Remove them.

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

Cl **40** *SC* **40.4.4.3** *P* **40-47** *L* **25** # **2**

Sailesh K. Rao Level One Communica

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

link_control[HCD]=disable?.

SuggestedRemedy

Remove pasted text.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.4.4.3** *P* **40-47** *L* **25 and 26** # **402**

David Law 3Com

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

I am not sure what the two instances of the text 'link_control_HCD = disable' relates to, are they part of a state machine term?

SuggestedRemedy

Clarify the meaning of this text.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.4.4.3** *P* **40-47** *L* **25-30** # **300**

Shimon Muller Sun Microsystems

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

The text under the state diagram is unclear.

SuggestedRemedy

1. Delete the garbage that does not belong in the text.
2. Number the notes that belong in the text.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.4.4.3** *P* **40-47** *L* **26-29** # **240**

Benjamin Brown Cabletron Systems, In

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

What is all the text at the bottom of the state diagram?

SuggestedRemedy

Remove all this extraneous text.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.4.4.3** *P* **40-47** *L* **3-29** # **372**

Brad Booth Jato Technologies

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

Use messages/primitives instead of variables.

SuggestedRemedy

Replace variables.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.4.5.1** *P* **40-48** *L* **4** # **403**

David Law 3Com

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

It would be a clearer subclause cross reference to use 40.2.2.1 rather that 40.2.2.

SuggestedRemedy

Suggest the text '... interface in 40.2.2 ...' should read '... interface in 40.2.2.1 ...'

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.4.5.5.2** *P* **40-50** *L* **14 to 16** # **406**

David Law 3Com

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

Suggest it is not a good idea to try and specify the action here as it reproduces the specification that already appears in 40.4.2.4 and figure 40-13.

SuggestedRemedy

Suggest the effect of receipt text reads 'This primitive affects operation of the PMA Link Monitor function as described in 40.4.2.4'

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.4.5.5.2** *P* **40-50** *L* **9 and 10** # **405**

David Law 3Com

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

The text gives only one example of when the primative is generated.

SuggestedRemedy

Suggest that the 'when generated' text reads 'Auto-Negotiation generates this primitive to indicate a change in link_control as described in Clause 28'

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.4.5.9** *P* **40-51** *L* **1** # **407**

David Law 3Com

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

This primitive is called PHYC_RXSTATUS elsewhere in subclause 40.2.2.3

SuggestedRemedy

Suggest 'PMA_RXSTATUS.request' should read 'PHYC_RXSTATUS.request'

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.4.5.9** *P* **40-51** *L* **7** # **408**

David Law 3Com

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

Suggest 40.2.2.3 is a better reference than 40.2.2

SuggestedRemedy

See comment.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5** *P* **40-52** *L* **3** # **373**

Brad Booth Jato Technologies

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

Management functions are defined by MII, not GMII.

SuggestedRemedy

Change:
"... by the Gigabit Media Independent Interface (clause 35) and..."
to
"... by the MII Management Interface (clause 22) and..."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5** *P* **40-52** *L* **3-4** # **103**

Rich Seifert Networks and Commu

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

SuggestedRemedy

Change "... Gigabit Media Independent Interface (clause 35) ..." to "Gigabit Media Independent Interface (clause 35) and Media Independent Interface (clause 22) ...".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5** *P* **40-52** *L* **7-14** # **374**

Brad Booth Jato Technologies

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

registers are management registers, not MII registers.

SuggestedRemedy

Change: "MII" to "management"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.1.1** *P* **40-52** *L* **31** # **140**

Tam Ross Level One Communica

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

1) bits 4.11:10 do not correspond to 1.10:9 (T2 full and half duplex)
2) Register 4, is written directly by management, it does not "come from" register 1, a status register, or at least we shouldn't require this in the standard
3) bit 4.14 is not the acknowledge bit, it is reserved (true, the corresponding bit in the transmitted word is used for acknowledge).

SuggestedRemedy

Change last two sentences of this paragraph to:

"The Technology Ability Field bits 4.12:5 are set to the appropriate code as specified in Annexes 28B and 28D. Bit 4.15 is set to logical one to indicate the desired exchange of Next Pages describing the gigabit extended capabilities."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.1.1** *P* **40-52** *L* **45** # **337**

Andy Castellano Broadcom

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

Some obsolete references to ASM_DIR remain.

SuggestedRemedy

Page 40-52 Line 45: Change "U5" to "U4". Change "9.12:7" to "9.12:8"
Page 40-54 Line 29: Delete ASM_DIR def.
Page 40-54 Line 31: Change "9.6:0" to "9.7:0".
Page 40-55 Line 23: Delete ASM_DIR def.
Page 40-56 Line 10: Delete ASM_DIR def.
Page 40-57 Line 11: Delete ASM_DIR def.
Page 40-57 Line 19: Change "Bit 10:8 is" to "Bits 10.9:8 are". Change "It shall" to "They shall"
Page 40-64 Line 33: Change "Asymmetric_Pause value" to "Reserved". Delete "GMII "

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.2** *P* **40-53** *L* **3** # **377**

Brad Booth Jato Technologies

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

Incorrect reference.

SuggestedRemedy

Change "... in Clause 35..." to "... in clause 22..."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.2** *P* **40-53** *L* **3** # **242**

Benjamin Brown Cabletron Systems, In

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

Incorrect reference to clause 35, it should be to 22

SuggestedRemedy

Replace "Clause 35" with "22.2.2.11 and 22.2.2.12"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.2** *P* **40-53** *L* **3-10** # **106**

Rich Seifert Networks and Commu

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

These two paragraphs are content-free, with respect to 1000BASE-T. The third paragraph contains all of the useful information.

SuggestedRemedy

Delete the two paragraphs.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **40** *SC* **40.5.2** *P* **40-53** *L* **5** # **378**

Brad Booth Jato Technologies

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

Sentence not required because reference to MII Management Interface moved to 40.5.

SuggestedRemedy

Remove sentence starting with "This interface is referred to as..."

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **40** *SC* **40.5.3.1** *P* **40-54** *L* **25** # **37**

Thomas K. Joergensen Intel

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

The use of the term "DTE" in line 25,26,27 and 28 cannot be used, as the device can be either a DTE device or a repeater device.

SuggestedRemedy

Exchange DTE with PHY in line 25,26,27 and 28.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.3.1** *P* **40-54** *L* **28** # **411**

David Law 3Com

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

Bit 9.8 is the 1000BASE-T Half Duplex bit, not just the 1000BASE-T bit.

SuggestedRemedy

Suggest the text '1000BASE-T' should read '1000BASE-T Half Duplex' in the Name column of bit 9.8.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.3.1** *P* **40-54** *L* **4** # **291**

Howard Frazier Cisco Systems, Inc.

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

The shading used on table 40-5 is inconsistent with the table format in clause 22.

SuggestedRemedy

Remove the shading from the header and footer rows on this table.

Same for table 40-6 on pages 40-55 and 40-56.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.3.1** *P* **40-54** *L* **5** # **409**

David Law 3Com

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

The superscript '1' has flowed over onto a new line. This has happened in several places.

SuggestedRemedy

Globally restore the superscript '1' to be a superscript on the management register definition tables.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.3.2** *P* **40-56** *L* **10** # **243**

Benjamin Brown Cabletron Systems, In

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

Name of 10.9 is incorrect

SuggestedRemedy

Replace "ASM_DIR" with "LP ASM_DIR"

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **40** *SC* **40.5.3.2** *P* **40-55** *L* **43, 50** # **162**

David law

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

"From the description of 10.15 it appears that this bit is a Latching High bit, that is if it ever is set it will remain set until it has been read. In the past these type of bits have been marked as LH (Latching High) bits in the bit definitions table (see 22-8, Jabber detect bit as an example."

SuggestedRemedy

"Change bit 10.15 Type from RO to RO/LH, add the text 'LH = Latching High' to the end of the subscript note at the end of table 40-6."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.3.2** *P* **40-56** *L* **51** # **276**

Dan Essig Rockwell

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

Inconsistent puncuation of register/bit fields in several places.

SuggestedRemedy

Page 40-55, line 51 - change to "10.15:11"
Page 40-56, line 6 - change to "10.11"
Page 40-56, line 8 - change to "10.10"
Page 40-56, line 16 - change to "10.15:11"
Page 40-57, line 19 - change to "10.8"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.3.2.1** *P* **40-56** *L* **29** # **244**

Benjamin Brown Cabletron Systems, In

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

The variable ATMP_CNT is used without description

SuggestedRemedy

Add a description to ATMP_CNT=7 before using it in a sentence.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.3.2.3** *P* **40-56** *L* **42** # **338**

Andy Castellano Broadcom

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

Local receiver status here must have a value of 1 or 0, but the variable has three possible values (OK, SCR_OK or NOT_OK).

SuggestedRemedy

Add the following sentence to line 43: "Bit 10.13 shall be set to whenever loc_rcvr_status = OK, and shall be set to 0 whenever loc_rcvr_status = SCR_OK or NOT_OK."
Also add the following sentence to line 48: "Bit 10.12 shall be set to 1 whenever rem_rcvr_status = OK, and shall be set to 0 whenever rem_rcvr_status = NOT_OK."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.3.2.5** *P* **40-57** *L* **1** # **412**

David Law 3Com

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

There are two options given for when this bit is stable, one without Next Page, one with Next Page. As it is mandatory for 1000BASE-T to use Next Page is the first option redundant.

SuggestedRemedy

Suggest the text '... as indicated by bit 1.5 or, if used with Next Page exchange, after the ...' should read ' ... as indicated by the ..'.
If accepted this change is also required by 40.5.3.2.6

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.3.2.9** *P* **40-57** *L* **40** # **379**

Brad Booth Jato Technologies

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

Use primitive, not variable.

SuggestedRemedy

Change "... the PHY Control parameter tx_mode..." to "... PHYC_TXMODE.indicate..."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.4.2** *P* **40-58** *L* **23** # **245**

Benjamin Brown Cabletron Systems, In

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

The word feed should not be used here

SuggestedRemedy

replace "feed and receive" with "transmit and receive"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.5** *P* **40-59** *L* **17-22** # **247**
Benjamin Brown Cabletron Systems, In

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

There are 5 signals but only 4 arrows between 1000T Add On and Register 6

SuggestedRemedy

Add a 5th arrow or remove a signal

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **40** *SC* **40.5.5** *P* **40-58** *L* **25** # **339**
Andy Castellano Broadcom

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

The term "auto negotiate" is used many times within pages 40-58,59,60.

SuggestedRemedy

Replace with "Auto-negotiation".

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **40** *SC* **40.5.5** *P* **40-59** *L* **43** # **248**
Benjamin Brown Cabletron Systems, In

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

There is no signal name attached to the arrow from Register 15 to 1000T Add On

SuggestedRemedy

Add a signal name to the arrow

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **40** *SC* **40.5.5.1** *P* **40-60** *L* **18** # **251**
Benjamin Brown Cabletron Systems, In

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

SuggestedRemedy

Replace "(Software_+NULL_TX)" with "(Software_NULL_TX)"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.5.1** *P* **40-60** *L* **7** # **249**
Benjamin Brown Cabletron Systems, In

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

SuggestedRemedy

Replace "The only thing that" with "The only thing the"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.5.1.1** *P* **40-60** *L* **26** # **340**
Andy Castellano Broadcom

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

The variable mr_1000t_np does not seem to get used.

SuggestedRemedy

Search for "mr_1000t_np", and if not found delete this definition.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.5.2** *P* **40-62** *L* # **253**
Benjamin Brown Cabletron Systems, In

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

4 states, all with the same name

SuggestedRemedy

Change the names of the 4 states from WAIT to WAIT_TX_1, WAIT_TX_2, WAIT_TX_3 and WAIT_TX_4 or something similar to distinguish them from each other

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **40** *SC* **40.5.5.2** *P* **40-63** *L* # **254**
Benjamin Brown Cabletron Systems, In

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

4 states, all with the same name

SuggestedRemedy

Change the names of the 4 states from WAIT to WAIT_RX_1, WAIT_RX_2, WAIT_RX_3 and WAIT_RX_4 or something similar to distinguish them from each other

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **40** *SC* **40.5.5.2** *P* **40-61** *L* **11** # **38**

Thomas K. Joergensen Intel

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

Reference to figure 40-15. It should be figure 40-16

SuggestedRemedy

Change reference to figure 40-16

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.5.2** *P* **40-62** *L* **11** # **255**

Benjamin Brown Cabletron Systems, In

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

Missing asterisk (AND) in transition from state BASE_PAGE_TX to state Software_NP_TX

SuggestedRemedy

Add "*" after mr_lp_np_able=true term

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.5.2** *P* **40.61** *L* **19** # **314**

Geoff Thompson Bay Networks

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

""manually"" means using ones hands. I have no idea how one uses one's hands to read ""all Next Pages""

SuggestedRemedy

Please replace the word ""manually"" with something more appropriate."

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **40** *SC* **40.5.5.2** *P* **40-61** *L* **20-50** # **146**

Linda Cheng Sun Microsystems

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

There seems to be a shorthand abbreviation in the text which would be better written out fully. 1000T vs 1000 BASE-T

SuggestedRemedy

Replace 1000T with 1000BASE-T

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.5.2** *P* **40-64** *L* **50** # **341**

Andy Castellano Broadcom

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

This bit is ignored if 9.12 = 0, not 9.11.

SuggestedRemedy

Change "9.11" to "U0".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.5.3** *P* **40-67** *L* **10** # **20**

Steve Pryor Compaq

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

The first sentence of the paragraph implies that only control register bit 9.12 is required to manually set a device to become the MASTER or SLAVE. In fact, it takes two bits. Bit 9.12 is the enabler which then allows you to use bit 9.11 to actually set the MASTER or SLAVE state.
The paragraph needs some word smithing to properly describe manual MASTER-SLAVE configuration.

SuggestedRemedy

Change
"9.12) is"
to
"9.12) and MASTER-SLAVE Config Value bit (control register bit 9.11) are"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.5.3** *P* **40-67** *L* **15** # **342**

Andy Castellano Broadcom

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

Typo in "link~status"

SuggestedRemedy

Change "~" to "_"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.5.3** *P* **40-67** *L* **15** # **256**

Benjamin Brown Cabletron Systems, In

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

SuggestedRemedy

Replace "link~state_10000BASE-T" with "link_status_1000BASE-T"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.5.3** *P* **40-67** *L* **28** # **278**

Dan Essig Rockwell

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

Inconsistent puncuation of register/bit fields.

SuggestedRemedy

Change "10:15" to "10.15" and "10:14" to "10.14".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.5.3** *P* **40-67** *L* **28-29** # **347**

Benjamin Brown Cabletron Systems, In

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

In the description of the Successful outcome of the MASTER_SLAVE configuration process, only half of the answer is given.

SuggestedRemedy

Replace the first sentence of this paragraph with "Bit 10.15 of the 1000BASE-T Status Register is set to logical zero and bit 10.14 is set to logical one for master resolution or logical zero for slave resolution."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.5.3** *P* **40-67** *L* **36** # **348**

Benjamin Brown Cabletron Systems, In

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

SuggestedRemedy

Replace "also is be" with "is also"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.5.3** *P* **40-66** *L* **48** # **160**

David Law

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

"The text reads '... should assert link_status_1000T= FAIL ...'. The variable is defined as link_status_1000BASE-T elsewhere in the document, hence needs corrected here."

SuggestedRemedy

Suggest that '... should assert link_status_1000T= FAIL ...' should read '... should assert link_status_1000BASE-T= FAIL ...'

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.5.4** *P* **40-68** *L* # **349**

Benjamin Brown Cabletron Systems, In

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

This table already exists in 28B.3. Does it need to be duplicated here?

SuggestedRemedy

Remove it and all references to it.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.5.5.4** *P* **40-68** *L* **1-20** # **161**

David Law

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

I do not think we should reproduce the priority resolution table within the body of Clause 40 as it may become out of date in the future and 802.3ab has already specified the updates required to 28B.3 in 40CH ANNEX 28B. In addition the body of this SubClause is basically the text of 28B.3 modified to say that 1000BASE-T is changing it. Again I do not think this is necessary.

SuggestedRemedy

Delete subclause 40.5.5.4 and in addition delete Table 40-9.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.6.1.1.2** *P* **40-70** *L* **28** # **413**
David Law 3Com

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

SuggestedRemedy
Text '9:13.15' should read '9.13:15'.

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

Cl **40** *SC* **40.6.1.1.2** *P* **40-70** *L* **28** # **343**
Andy Castellano Broadcom

Comment Type **E** *Comment Status* **A**
Bit numbering is incorrect.

SuggestedRemedy
Change "9:13-15" to "9.13:15"

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

Cl **40** *SC* **40.6.1.1.2** *P* **40-71** *L* **29** # **280**
John Creigh Broadcom

Comment Type **E** *Comment Status* **A**
Scrn[11:0] should be Scrn[10:0].

SuggestedRemedy
Fix it.

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

Cl **40** *SC* **40.6.1.1.3** *P* **40-74** *L* **110** # **292**
Howard Frazier Cisco Systems, Inc.

Comment Type **E** *Comment Status* **A**
The text fixtures, while helpful, could be drawn better.

SuggestedRemedy
Lighten up the line thickness in all four of these text fixture figures. Also, figure 40-24 could use a little tuning up of the resistor drawing.

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

Cl **40** *SC* **40.6.1.2.2** *P* **40-77** *L* **39** # **281**
John Creigh Broadcom

Comment Type **E** *Comment Status* **A**
Line 39 and 43: "it's" should be "its".

SuggestedRemedy
Fix it.

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

Cl **40** *SC* **40.6.1.2.4** *P* **40-85** *L* **15** # **344**
Andy Castellano Broadcom

Comment Type **E** *Comment Status* **A**
Note says MATLAB code is to be removed prior to publication.

SuggestedRemedy
???

Proposed Response *Response Status* **C**
ACCEPT IN PRINCIPLE.
Note is incorrect. The plan is to includet he MatLab code. The problem is figuring out how to do it in a way acceptable to IEEE.

Cl **40** *SC* **40.6.1.2.5** *P* **40-87** *L* **48** # **284**
John Creigh Broadcom

Comment Type **E** *Comment Status* **A**
Need a space between Jtxout and shall.

SuggestedRemedy
Add it.

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

Cl **40** *SC* **40.6.1.3.3** *P* **40-89** *L* **3** # **415**
David Law 3Com

Comment Type **E** *Comment Status* **A**
The text mentions a PMD yet 1000BASE-T does not specify a PMD, please clarify.

SuggestedRemedy
Suggest the text '... of the PMD receiver ...' should read '... of the PMA receiver ...'.

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

Cl **40** *SC* **40.6.1.3.3** *P* **40.89** *L* **5** # **315**
Geoff Thompson Bay Networks

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

The IEC spec here should go to an entry in the references not to a footnote.

SuggestedRemedy

Delete footnote and add 61000-4-3 to the references sub-clause"

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **40** *SC* **40.6.1.3.3** *P* **40-89** *L* **51-53** # **115**
Rich Seifert Networks and Commu

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

SuggestedRemedy

Move the footnote to the References section.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **40** *SC* **40.6.1.3.4** *P* **40-90** *L* # **7**
Robert Campbell Lucent Technolgies

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

Suggest title of section be changed to reflect actual noise type test is intended to reject.

SuggestedRemedy

Change title to "Alien Crosstalk noise rejection"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.6.1.3.4** *P* **40.90** *L* **26** # **316**
Geoff Thompson Bay Networks

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

The asterisk in the resistor matching note in figure 40-27 has no root

SuggestedRemedy

Change ""2000 ohms"" to ""2000 ohms*"" 2 places alphabetical ""ohms"" to be changed to an omega symbol and resistors changed to resistor symbol to match style in immediately following diagrams"

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **40** *SC* **40.6.1.3.4** *P* **40-90** *L* **6** # **116**
Rich Seifert Networks and Commu

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

SuggestedRemedy

Change "packet error rate" to the more appropriate term, "frame loss rate".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.6.1.4.1** *P* **40-90** *L* **36** # **282**
Dan Essig Rockwell

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

Wording for the return is confusing and contains a relative dB without a reference.

SuggestedRemedy

Change "is at least 16 dB" to "is attenuated, relative to the incident signal, at least 16 dB".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.6.1.4.2** *P* **40-91** *L* **10** # **283**
Dan Essig Rockwell

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

Poor wording of note. Same note in the next section is better.

SuggestedRemedy

Change "The balance of the test equipment" to "The imbalance of the test equipment"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.6.1.4.4** *P* **40.92** *L* **6** # **317**
Geoff Thompson Bay Networks

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

Third word is wrong

SuggestedRemedy

Change: ""Each duplex part"" to ""each duplex port"" per example in following paragraph.n"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.7** *P* **40.93** *L* **4** # **318**

Geoff Thompson Bay Networks

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

You use the term ""link segment"". There are (unfortunately) 2 definitions for link segment in the 802.3 standard. One from FOIRL and 10BASE-T, the other came from ISO/IEC 11801. You need to be clear-see Doorstop pdf and message forwarded on the subject).

SuggestedRemedy

Add clarifying text.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.7.1** *P* **40-93** *L* **11-12** # **202**

Rautenberg, Peter Alcatel Cabling Syste

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

1000BASE-T is designed to operate over a 4-pair Category 5 cabling system, consisting of Category 5 components as specified in ISO/IEC 11801:1995. This standard equally allows 120 Ohm components, which have the specified electrical characteristics.

SuggestedRemedy

Replace first sentence by
"The cabling system used to support 1000BASE-T requires4 pairs of Category 5 balanced cabling with a nominal impedance of 100 or 120 Ohms."

Proposed Response *Response Status* **C**

REJECT.

See response to comment 203.

Cl **40** *SC* **40.7.1** *P* **40-93** *L* **16** # **262**

Terry Cobb Lucent

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

It is not clear what is required in addition to Class D.

SuggestedRemedy

See TIA comment.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **40** *SC* **40.7.1** *P* **40-93** *L* **16** # **257**

Terry Cobb Lucent

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

It is not clear what is required in addition to Class D.

SuggestedRemedy

See TIA comment.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **40** *SC* **40.7.2.1** *P* **40-93** *L* **36-37** # **122**

Alan Flatman

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

Composition of cabling channel unclear. Should use established terminology for cabling sections

SuggestedRemedy

Amend sentence to read ".... balanced cabling pairs including work area and equipment cables plus connector losses within each duplex channel."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.7.2.3.1** *P* **40-94** *L* **18-19** # **124**

Alan Flatman

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

Return Loss is being specifed in Amendment 3 to ISO/IEC 11801, where the proposed limits actually exceed those specified in 40.7.2.3.1.

SuggestedRemedy

Amend Editor's Note to read ".... proposed for ISO/IEC 11801 Amendment 3 exceeds this specification."

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **40** *SC* **40.7.3** *P* **40-94** *L* **26** # **263**

Terry Cobb Lucent

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

MDELFEXT is not specidied.

SuggestedRemedy

Remove

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.7.3.1.1** *P* **40-93** *L* **33-37** # **5**

Henriecus Koeman — Fluke Corporation

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

The introduction to 40.7.3 states that there are requirements defined for Multiple Disturber Near-End Crosstalk (MDNEXT) loss and Multiple Disturber Equal Level Far-End Crosstalk (MDELFEXT) loss.
This is not true for MDNEXT. MDNEXT requirements even when worst case Pair-to-pair NEXT conditions occur, and therefore there is no need to separately specify MDNEXT.

SuggestedRemedy

The second sentence to read as follows:

"Each duplex channel can be disturbed by more than one duplex channel. Requirements for Multiple Disturber Near-End Crosstalk (MDNEXT) loss are satisfied even when worst case conditions of differential pair-to-pair Near-End Crosstalk (NEXT) loss as specified under 40.7.3.1.1 occur. Therefore, there are no separate requirements for MDNEXT. Requirements for Multiple Disturber Equal-Level Far-End Crosstalk (MDELFEXT) loss are specified in 40.7.3.2.2."

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **40** *SC* **40.7.3.2.1** *P* **40-94** *L* **43** # **125**

Alan Flatman

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

BER objective is specified in 40.1 (e) not 40.6.1.3.1.

SuggestedRemedy

Amend reference.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.7.5** *P* **40-96** *L* **3** # **207**

Robert Campbell — Lucent Tech

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

I beleive a more comprehensive discussion on noise sources is needed. We must remember this specification is used by others than just LAN hardware developers. Such as discussion is contained in 100BASE-T2 and has been very helpful for those who do not have the insights that the developers of this specification.

SuggestedRemedy

Replace 40.7.5 with the following.

The 1000BASE-T noise environment consists of noise of noise from many sources. The primary noise sources that impact the objective BER are NEXT noise and echo noise, which are reduced a small residual using cancelers, and the remaining noise sources are secondary sources as discussed below.

The 1000BASE-T noise environment consists of the following:

a) Echo from the local transmitter on the same duplex channel (cable pair). Echo is caused by the hybrid network used to achieve simultaneous bi-directional transmission of data and by impedance discontinuities in the link segment. It is impractical to achieve the objective BER without using echo cancellation to reduce this noise to a small residual. Echo noise is cancelled using echo cancelers which is possible since the symbols transmitted from the disturbing local transmitter are available to the cancellation processor.

b) Near-End Crosstalk (NEXT) noise from the local transmitters on the duplex channels (cable pairs) of the link segment. Each receiver will experience NEXT noise from three adjacent transmitters. NEXT noise cancelers are used to reduce the noise from each of the three disturbing transmitters to a small residual. NEXT noise cancellation is possible since the symbols transmitted by the three disturbing local transmitters are available to the cancellation processor. NEXT cancelers can reduce NEXT noise by at least 20 dB.

c) Far-End Crosstalk (FEXT) noise at a receiver is from three disturbing transmitters at the far end of the duplex channel (cable pairs) of the link segment. FEXT noise can not be cancelled in the same way as echo and NEXT noise since the symbols from the remote transmitters are not immediately available; however, FEXT noise is much smaller than NEXT noise and can generally be neglected.

d) Noise from non-idealities in the duplex channel, transmitters and receivers; for example, DAC/ADC non-linearity, electrical noise (Shot and thermal) and non-linear channel characteristics.

e) Noise from sources outside the cabling which couple into the link segment via electric and magnetic fields.

f) Noise from signals in adjacent cables. This noise is referred to as alien NEXT noise and is generally present when cable are bound tightly together. Since the transmitted symbols from the alien NEXT noise source are not available to the cancellation processor (they are in another cable), it is not possible to cancel the alien NEXT noise. To ensure robust operation noise due to alien NEXT must meet the specification of xxx.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor will distil the text.

Cl **40** *SC* **40.8.3.1** *P* **40-98** *L* **21** # **416**

David Law 3Com

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

Suggest that you do not need to mention IEEE802.3u when referring to Clause 28 as it is not necessary and is out of date.

SuggestedRemedy

Suggest text '... with IEEE802.3u clause 28 specification' should read '... with the clause 28 Auto-Negotiation specification'

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.8.3.1** *P* **40-98** *L* **28** # **353**

Daniel Dove Hewlett Packard

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

Typo

SuggestedRemedy

Change "make a decision" to "makes a decision"
^

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.8.3.1.2** *P* **40-99** *L* **13** # **417**

David Law 3Com

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

Subclause 28.3.1 defines that values of linkpulse to be 'true' and 'false', not 'TRUE' and 'FALSE' as used here.

SuggestedRemedy

Suggest the text 'linkpulse = TRUE' be changed to read 'linkpulse = true'. Also do the same change on line 16.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.8.3.1.3** *P* **40-99** *L* **33** # **419**

David Law 3Com

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

It is usual to define the operation of the timers. It is also normal to use all lower case names for the timers. (See 40.2.4 for an example)

SuggestedRemedy

Suggest to add the following text to the start of this subclause 'All timers operate in the manner described in 14.2.3.3' Also globally change 'Sample_Timer' to 'sample_timer'.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.8.3.1.4** *P* **40-100** *L* **16** # **420**

David Law 3Com

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

Typo, & used instead of an * for a logical AND.

SuggestedRemedy

Text '... & Link_Det ...' should read '... * Link_Det ...'

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.8.3.1.4** *P* **40-100** *L* **16&21** # **351**

Benjamin Brown Cabletron Systems, In

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

The transition from state MDI_MODE to state MDI-X MODE uses the term TD_AUTONEG=idle while the transition back uses the term T_PULSE=FALSE

SuggestedRemedy

Be consistent with the term.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **40** *SC* **40.8.3.1.4** *P* **40-100** *L* **18** # **360**

Daniel Dove Hewlett Packard

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

Alignment of "Start Sample_Timer" is inconsistent with MDI_MODE box.

SuggestedRemedy

Change "Start Sample_Timer" alignment in MDI-X_MODE box.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.8.3.1.4** *P* **40-100** *L* **18** # **359**

Daniel Dove Hewlett Packard

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

Inconsistent naming of variable Link_DET is used in FIG 40-34.

*** This replaces earlier comment on this point. It had an incorrect line reference **** Also look at line 11.

SuggestedRemedy

Change Link_DET to Link_Det in all instances of this figure.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.8.3.1.4** *P* **40-100** *L* **19** # **350**

Benjamin Brown Cabletron Systems, In

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

Wrong font used for the assignment of MDI_Status <= MDI-X

SuggestedRemedy

Correct font

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.8.3.1.4** *P* **40-100** *L* **36** # **358**

Daniel Dove Hewlett Packard

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

Inconsistent naming of variable Link_DET is used in FIG 40-34.

SuggestedRemedy

Change Link_DET to Link_Det in all instances of this figure.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40.9** *P* **40-101** *L* **10** # **11**

Robert Campbell Lucent Tech

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

Add a paragraph concerning the need/no need for a crossover cord. This depends on the adoption of my comment to make MDI/MDI-X configuration mandatory.

SuggestedRemedy

The following is suggested text assuming the MDI/MDI-X configuration becomes a requirement.
For all 1000BASE-T applications, both DTE-DTE networks and DTE-repeater networks, a crossover cord is not required. Unlike 10BASE-T and 100BASE-T network applications 1000BASE-T determines the cable configuration during startup and adjusts for the needed configuration.

Proposed Response *Response Status* **C**

ACCEPT.
Comment 10 (make Auto-Crossover mandatory) was accepted.

Cl **40** *SC* **40A** *P* **40-135** *L* **3** # **126**

Alan Flatman

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

Opening sentence too weak.

SuggestedRemedy

Amend sentence to read "this annex provides additional cabling

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40A** *P* **40-135** *L* **5** # **135**

Robert Campbell Lucent Tech

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

To clarify that a 1000BASE-T link segment consists of category 5 plus some additional transmission paramters that are not contained in either ANSI/TIA/EIA-568-a nor ISO/IEC 11801:1995 it is recommended the following change be made.

SuggestedRemedy

Replace the sentence that starts with `Although" with the following.
1000BASE-T is designed to operate over 4-pair unshielded twisted pair cabling systems that meet both the category 5 requirements in ANSI/TIA/EIA-568-A, ISO/IEC 11801:1995 and the additional transmission paramters of return loss, ELFEXT loss and MDELFEXT loss specified in clause 40.7. In addition there are there are other steps that can be taken by network designers that provide additional operating margins that will ensure the objective BER of 10E-10 is achieved. For new installations it is recommended that cabling systems be used that incorporate both category 5 and the additional transmission parameters of clause 40.7.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace the sentence that starts with `Although" with the following.
1000BASE-T is designed to operate over 4-pair unshielded twisted pair cabling systems that meet both the category 5 requirements in ANSI/TIA/EIA-568-A, ISO/IEC 11801:1995 and the additional transmission parameters of return loss, ELFEXT loss and MDELFEXT loss specified in clause 40.7. In addition there are other steps that can be taken by network designers to provide increased operating margins. For new installations it is recommended that cabling systems
be used that incorporate both category 5 and the additional transmission parameters of clause 40.7.

Cl **40** *SC* **40A** *P* **40-135** *L* **9** # **269**

Terry Cobb Lucent

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

To date there is no standard that defines how field measurements are made on return loss or ELFEXT, as with the others in TSB 67.

SuggestedRemedy

Must add some refference to additional requirements from TIA on field testing.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Will add a reference to ANSI/TIA/EIA TSB 95.

Cl **40** *SC* **40A.01.1.3** *P* **40-136** *L* **44-45** # **133**

Alan Flatman

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

Reference to "basic link" is not used in ISO/IEC 11801and may be confusing.

SuggestedRemedy

Amend to read " ..., the configuration shown in figure 40A-2 is recommended. The minimum configuration:"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40A.01.1.3** *P* **40-136** *L* **47-52** # **134**

Alan Flatman

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

Items a), b) and e) are not relevant.

SuggestedRemedy

Delete items a), b) and e)

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40A.1.1** *P* **40-135** *L* **21** # **8**

Robert Campbell Lucent Technologies

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

Limit on sum incorrect.

SuggestedRemedy

Change `13i = 3' to `i = 3'.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40A.1.1** *P* **40-135** *L* **21** # **270**

Terry Cobb Lucent

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

Above the sumation sign, 13i.

SuggestedRemedy

Remove the 13.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40A.1.1.2.1** *P* **40-136** *L* **2** # **128**

Alan Flatman

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

"gigabit ethernet" should be "1000BASE-T"

SuggestedRemedy

Use "1000BASE-T".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40A.1.1.2.1** *P* **40A.135** *L* **49** # **324**

Geoff Thompson Bay Networks

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

Missing sub-clause or misnumbering 40A.1.1.2 has no text and only one subclause. Style dictates that you should merge the titles and kick 40A.1.1.2.1 upstairs a level.

SuggestedRemedy

"

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **40** *SC* **40A.1.1.2.1** *P* **40-135** *L* **51** # **127**

Alan Flatman

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

"shall" cannot be used in an informative annex.

SuggestedRemedy

Change "shall" to "should".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40A.1.1.2.2** *P* **40A.136** *L* **4** # **326**

Geoff Thompson Bay Networks

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

Missing sub-clause or misnumbering

SuggestedRemedy

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **40** *SC* **40A.1.1.3** *P* **40-136** *L* **26** # **131**

Alan Flatman

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

"jumper" should be "patch"

SuggestedRemedy

Amend.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **40A.1.1.3** *P* **40A.136** *L* **7** # **327**

Geoff Thompson Bay Networks

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

The grammar in this paragraph is horrible. Miss Kinneman is spinning in her grave or at least she will if this gets published with my name on it. Please edit.

SuggestedRemedy

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE, will consult with Miss Kinneman

Cl **40** *SC* **40A.1.1.3** *P* **40-136** *L* **9** # **129**

Alan Flatman

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

I suspect that text has got confused in transcription.

SuggestedRemedy

Should read "building wiring, as specified in TIA/EIA 568A and ISO/IEC 11801. The maximum length ...."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **All** *P* **All** *L* # **21**

Brad Booth Jato Technologies

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

Draft switches between "Category 5" and "category 5".

SuggestedRemedy

Select one format.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **all** *P* **all** *L* **all** # **221**

Benjamin Brown Cabletron Systems, In

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

Be consistent about the order of the quinary symbols within braces. Some are {-2,-1,0,+1,+2} others are {2,0,-2}. Also, either use + or don't but be consistent.

SuggestedRemedy

I've found the following locations where these symbols are used:

Page	Line #
40-2	40
40-2	41
40-4	4
40-8	5
40-8	12
40-8	14
40-16	46
40-17	8
40-45	36

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **Fig 40A-2** *P* **40-136** *L* # **132**

Alan Flatman

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

Figures should refer to interconnnect and established terminology for cable sections.

SuggestedRemedy

Replace "Patch Panel" with "Interconnect" and refer to Work Area cable and Equipment Cable

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **Fig. 40-12** *P* **40-43** *L* **14** # **1**

Sailesh K. Rao Level One Communica

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

Reference to Clause 28 is missing for link_status variable.

SuggestedRemedy

Change to "Clause 28: link_status"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **Table 40-5** *P* **40-54** *L* **27** # **138**

Tam Ross Level One Communica

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

Bit 9.8 incorrectly labeled

SuggestedRemedy

Change to: "1000Base-T Half Duplex"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **40** *SC* **xxx** *P* **xxx** *L* **xxx** # **220**

Steve Pryor Compaq Computer Co

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

The previous comments I sent in about adding an abbreviation for the data encoding scheme incorrectly referred to the abbreviation as 4B/1Q4 in the comment fields. It should have been 8B/1Q4. The suggested remedies use the correct abbreviation but I felt I should clarify my clerical error.

SuggestedRemedy

Proposed Response *Response Status* **C**

ACCEPT.

Cl **42** *SC* **42.** *P* **42-3** *L* **26** # **12**

Robert Campbell Lucent Tech

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

Add a paragraph concerning the need/no need for a crossover cord. This depends on the adoption of my comment to make MDI/MDI-X configuration mandatory.

SuggestedRemedy

The following is suggested text assuming the MDI/MDI-X configuration becomes a requirement.
For all 1000BASE-T applications, both DTE-DTE networks and DTE-repeater networks, a crossover cord is not required. Unlike 10BASE-T and 100BASE-T network applications 1000BASE-T determines the cable configuration during startup and adjusts for the needed configuration.

Proposed Response *Response Status* **C**

ACCEPT. This comment appears to be a duplicate of comment 11, which was accepted.