Don't forget to update copyright year when producing the next draft.

Proposed Response: PROPOSED ACCEPT.

This line recurs at line 10

SuggestedRemedy: Delete the first line (or text if you need a blank line for the anchor for the Editor's Note).

Proposed Response: PROPOSED ACCEPT.

It should be indicated that the values "0000", "0001" (line 9), "0010" (line 10), "0011" (line 11), and "0100" (line 12) are binary.

SuggestedRemedy: add "the value of binary" before the numbers.

Proposed Response: PROPOSED ACCEPT.

The meaning "no test mode is selected in 3.2348.15:13" is not clear.

SuggestedRemedy: "a value of binary 000 in 3.2348.15:13" may be better.

Proposed Response: PROPOSED ACCEPT.
IEEE P802.3cz D1.2 Multi-Gig Automotive Optical Ethernet PHY 2nd Task Force review comments

**Comment Type E**  Comment Status D  Text improvement

“Loopback modes are specified in 166.10.” is redundant with information provided at the beginning f the same paragraph.

**Suggested Remedy**
Remove it

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

---

**Comment Type E**  Comment Status D  Text improvement

No instruction what operation causes "PMA reset"

**Suggested Remedy**
Add "see 166.3.4.1 for details".

**Proposed Response**  **Response Status W**
PROPOSED ACCEPT IN PRINCIPLE. Add "(see 166.3.4.1)".

---

**Comment Type E**  Comment Status X  Text improvement

No instruction what operation causes "PMA reset"

**Suggested Remedy**
Add "see 166.3.4.1 for details".

**Proposed Response**  **Response Status W**
PROPOSED ACCEPT IN PRINCIPLE. Add "(see 166.3.4.1)".

---

**Comment Type T**  Comment Status D  Text improvement

Only refresh is transmitted.

**Suggested Remedy**
Replace "transmitting refresh and quiet" with "transmitting refresh".

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

---

**Comment Type T**  Comment Status D  Text improvement

Only refresh is received.

**Suggested Remedy**
Replace "refresh and quiet" with "refresh".

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

---

**Comment Type T**  Comment Status D  Text improvement

BASE-AU —> BASE-U (PCS).

**Suggested Remedy**
Replace BASE-AU with BASE-U.

**Proposed Response**  **Response Status W**
PROPOSED ACCEPT.
When read as one, bit 3.24.0 indicates ...

SuggestedRemedy
Should be: When read as one, bit 3.2349.0 indicates

Proposed Response  Response Status  W  PROPOSED ACCEPT.

BASE-AU —> BASE-U (PCS).

SuggestedRemedy
Replace BASE-AU with BASE-U.

Proposed Response  Response Status  W  PROPOSED ACCEPT.

The description "(no loopback operation)" is inconsistent.

SuggestedRemedy
"(no loopback mode)"

Proposed Response  Response Status  W  PROPOSED ACCEPT IN PRINCIPLE. Use "no loopback" as described in Table 45-313c.

25 Gigabit Ethernet uses the IEEE 802.3 MAC sublayer, connected through a 25 Gigabit Media Independent Interface (25GMII) to one of a number of 25 Gb/s Physical Layers. [remainder of existing paragraph become strike-through].

SuggestedRemedy
Replace with: 25 Gb/s PHY using 64B/65B and Reed-Solomon encoding with NRZ modulation over optical fiber for use in automotive applications (see Clause 166).

Proposed Response  Response Status  W  PROPOSED ACCEPT.

"(e.g., automotive)"

Proposed Response  Response Status  W  PROPOSED ACCEPT.

Reduce examples list. BASE-AU are targeted to automotive.

SuggestedRemedy
change to: "(e.g., automotive)"

Proposed Response  Response Status  W  PROPOSED ACCEPT.
IEEE P802.3cz D1.2 Multi-Gig Automotive Optical Ethernet PHY 2nd Task Force review comments

Cl 116,1 SC 116,1 P 112 L 45 # 136
Pérez - Aranda, Rubén

Comment Type E Comment Status D Text improvement

Figure 166–3 shows

Suggested Remedy
should be: “Figure 166–3 shows”

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 125 SC 125.2.3a P 57 L 3 # 43
Pérez - Aranda, Rubén

Comment Type E Comment Status D Text improvement

Amend for consistency with 105.

Suggested Remedy
The 2.5GBASE-AU and 5GBASE-AU use the PMD and its corresponding media specified in Clause 166.

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 131 SC 131.2.2 P 59 L 48 # 44
Pérez - Aranda, Rubén

Comment Type E Comment Status D Text improvement

50GBASE-AU use the PCS specified in Clause 166. Should be “uses” or different wording.

Suggested Remedy
50GBASE-AU PCS is specified in Clause 166.

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 131 SC 131.2.3 P 59 L 53 # 45
Pérez - Aranda, Rubén

Comment Type E Comment Status D Text improvement

50GBASE-AU use the PMA specified in Clause 166. Should be “uses” or different wording.

Suggested Remedy
50GBASE-AU PMA is specified in Clause 166.

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 166 SC 166.1.1 P 62 L 46 # 52
Pérez - Aranda, Rubén

Comment Type T Comment Status D Text improvement

… connects the PMD transmitter …

Suggested Remedy
Should be: … specifications subject to frequency scaling and modulation scheme.

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 166 SC 166.1.4 P 64 L 33 # 53
Pérez - Aranda, Rubén

Comment Type E Comment Status D Text improvement

… connects the local PMD transmitter …

Suggested Remedy
Should be: … connects the PMD transmitter …

Proposed Response Response Status W
PROPOSED ACCEPT.
<table>
<thead>
<tr>
<th>Cl</th>
<th>SC</th>
<th>P</th>
<th>L</th>
<th>Type</th>
<th>Suggested Remedy</th>
<th>Proposed Response</th>
<th>Response Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>166</td>
<td>166.1.4</td>
<td>64</td>
<td>38</td>
<td><strong>E</strong></td>
<td>&quot;Type&quot; typo</td>
<td></td>
<td><strong>PROPOSED ACCEPT.</strong></td>
</tr>
<tr>
<td>166</td>
<td>166.1.4</td>
<td>64</td>
<td>52</td>
<td><strong>E</strong></td>
<td>The fixed-length Transmit Block ...</td>
<td></td>
<td><strong>PROPOSED ACCEPT.</strong></td>
</tr>
<tr>
<td>166</td>
<td>166.1.4</td>
<td>65</td>
<td>33</td>
<td><strong>T</strong></td>
<td>... provides clock and data recovery ...</td>
<td></td>
<td><strong>PROPOSED ACCEPT.</strong></td>
</tr>
<tr>
<td>166</td>
<td>166.1.4</td>
<td>65</td>
<td>36</td>
<td><strong>E</strong></td>
<td>Missing space between &quot;50GBASE-AU&quot; and &quot;over&quot; Add space</td>
<td></td>
<td><strong>PROPOSED ACCEPT.</strong></td>
</tr>
</tbody>
</table>
Suggest to replace “Equalizer” with “Data recovery”. Equalizer is not mandatory, it is up to the implementor. Though spec allows training of an equalizer, and equalizer may improve the RX sensitivity, there may be interoperable implementations that do not implement equalizer.

**Proposed Response**
Replace “Equalizer” with “Data recovery”

**PROPOSED ACCEPT.**

Most extended use is: encoded

**Proposed Response**
Most extended use is: encoded

**PROPOSED ACCEPT.**

The Physical Header path

**Proposed Response**
Change to: The Physical Header data path

**PROPOSED ACCEPT.**
Paragraph of lines 6 through 8 is not complete in summarizing PCS RX function.

**Suggested Remedy**

Replace with: The PCS receive function comprises binary descrambling, RS-FEC decoding of the received Transmit Block, 65B/64B decoding of payload portion to extract the xMII receive data stream, and TRC decoding and CRC16 checking of the PHD. The decoded PHD is also provided to the PMA sublayer for coordinated control of local and remote PHYs.

**Proposed Response**

**Response Status** W

PROPOSED ACCEPT.

---

See 166.2.6 for information on how 65-bit blocks containing control 16 characters are mapped. 64B/65B transmission process is ore than a mapping. I suggest replacing “mapped” with “generated”

**Suggested Remedy**

**Proposed Response**

**Response Status** W

PROPOSED ACCEPT.

---

Upon PHD reception,

**Suggested Remedy**

Should be: Upon reception of valid PHD,

**Proposed Response**

**Response Status** W

PROPOSED ACCEPT.

---

The field PHD.TX.NEXT.MODE is used by the local PHY to provide the link partner transmission mode of the next Transmit Block, so that the remote PHY can align its reception.

**Proposed Response**

**Response Status** W

PROPOSED ACCEPT IN PRINCIPLE. Replace with "The field PHD.TX.NEXT.MODE is used by the local PHY to provide the transmission mode of the next Transmit Block to the remote PHY, so that the remote PHY can align its reception."
Cl 166 SC 166.2.2.1.1 P 70 L 25 # 73
Pérez - Aranda, Rubén KDPOF
Comment Type E Comment Status D Text improvement
Should be period instead of full stop. Next paragraph is about the same thing.
SuggestedRemedy
Per comment
Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 166 SC 166.2.2.1.4 P 71 L 50 # 74
Pérez - Aranda, Rubén KDPOF
Comment Type T Comment Status D Text improvement
Then, the second 20-bit chunk is processed, repeated three times, and concatenated to the three 20-bit chunks resulting of the processing of the first 20-bit chunk. What is the meaning of "processed". In my opinion nothing and it may be confuse in understanding the
SuggestedRemedy
Should be: Then, the second 20-bit chunk is repeated three times and concatenated to the three times repeated 20-bit of the first chunk.
Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 166 SC 166.2.2.4 P 72 L 45 # 80
Pérez - Aranda, Rubén KDPOF
Comment Type E Comment Status D Text improvement
ten-bit → 10-bit, for consistency. This happens in many places
SuggestedRemedy
Per comment, correct in all the occurrences. At least unify. My preference is 10-bit.
Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE. Replace all occurrences of "ten-bit" by "10-bit"
IEEE 802.3cz D1.2 Multi-Gig Automotive Optical Ethernet PHY 2nd Task Force review comments

Cl 166 SC 166.2.6.1.1 P83 L29 # 163
Pérez - Aranda, Rubén, KDPOF
Comment Type E Comment Status D Text improvement
“For 2.5GBASE-AU, 5GBASE-AU, 10GBASE-AU, and 25GBASE-AU PHYs, vector containing two successive XGMII or 25GMII transfers.” A more compact form, and taking into account it is about PCS spec: “For a BASE-U PCS connected to XGMII/25GMII, vector containing two successive transfers.”

Suggested Remedy
Check full PCS spec and replace to use compact form and avoid the use of BASE-AU instead of BASE-U, in order to be consistent with other sections (PMA, EEE, …).

Proposed Response Response Status W
PROPOSED ACCEPT. Same as #132.

Cl 166 SC 166.2.6.1.1 P83 L34 # 164
Pérez - Aranda, Rubén, KDPOF
Comment Type E Comment Status D Text improvement
“For 50GBASE-AU PHY, vector containing a single 50GMII transfer.” A more compact form, and taking into account it is about PCS spec: “For BASE-U PCS connected to 50GMII, vector containing a single transfer.”

Suggested Remedy
Check full PCS spec and replace to use compact form and avoid the use of BASE-AU instead of BASE-U, in order to be consistent with other sections (PMA, EEE, …)

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 166 SC 166.2.6.1.2 P83 L41 # 111
Pérez - Aranda, Rubén, KDPOF
Comment Type T Comment Status D Text improvement
The ENCODE function shall encode the block as specified in 166.2.5.4.

Suggested Remedy
Change reference as: “The ENCODE function shall encode the block as specified in 166.2.5.”

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 166 SC 166.2.7 P84 L37 # 123
Pérez - Aranda, Rubén, KDPOF
Comment Type T Comment Status D Text improvement
“including compliance with the associated state variables as specified in 166.2.8.1.1.” Compliance should be with associated state functions and constants as well. However, compliance with variables, constants, counters and functions of a state diagram is implicit with being compliance with the state diagram itself.

Suggested Remedy
Remove “including compliance with the associated state variables as specified in 166.2.8.1.1.”

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 166 SC 166.2.7 P86 L5 # 113
Pérez - Aranda, Rubén, KDPOF
Comment Type T Comment Status D Text improvement
“When the xMII and PMA sublayer data rates are not synchronized, the receive process inserts idles, deletes 5 idles, or deletes sequence ordered sets to adapt between rates.” This is confuse. PMA recovers data and clock, which are provided to PCS. The xMII is source synchronous, so the clock is defined by the PCS. If different clock domains are used for each sublayer is a matter of implementation, nothing to do with interoperability. Rate matching is performed in the PCS transmit function. See 166.2.5.

Suggested Remedy
Remove paragraph.

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 166 SC 166.2.7 P86 L11 # 114
Pérez - Aranda, Rubén, KDPOF
Comment Type E Comment Status D Text improvement
Transmission Block

Suggested Remedy
Change to “Transmit Block”

Proposed Response Response Status W
PROPOSED ACCEPT.
<table>
<thead>
<tr>
<th>Comment Type</th>
<th>Comment Status</th>
<th>Proposed Response</th>
<th>Response Status</th>
<th>Text improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>T</td>
<td>D</td>
<td>Change to: “using the same LFSR with same initialization value”</td>
<td>W</td>
<td>PROPOSED ACCEPT.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Comment Type</th>
<th>Comment Status</th>
<th>Proposed Response</th>
<th>Response Status</th>
<th>Text improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>T</td>
<td>D</td>
<td>“R_BLOCK_TYPE of the affected 65-bit blocks equal to E.”</td>
<td>W</td>
<td>PROPOSED ACCEPT.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Comment Type</th>
<th>Comment Status</th>
<th>Proposed Response</th>
<th>Response Status</th>
<th>Text improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>T</td>
<td>D</td>
<td>Figure 166-17 does not specifies PHD sub-blocks concatenation to form a complete encoded PHD.</td>
<td>W</td>
<td>PROPOSED ACCEPT.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Comment Type</th>
<th>Comment Status</th>
<th>Proposed Response</th>
<th>Response Status</th>
<th>Text improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>T</td>
<td>D</td>
<td>Replace with: “The format for this vector is shown in Figure 166-14 for 2.5GBASE-AU, 5GBASE-AU, 10GBASE-AU, and 25GBASE-AU PHYs, and Figure 166-15 for 50GBASE-AU PHY.”</td>
<td>W</td>
<td>PROPOSED ACCEPT.</td>
</tr>
</tbody>
</table>
The DECODE function shall decode the rx_block based on code specified in 166.2.5.4.

**SuggestedRemedy**

Change reference as: “The DECODE function shall decode the rx_block based on code specified in 166.2.5.”

**Proposed Response**

PROPOSED ACCEPT.

---

**Comment Type:** T  
**Comment Status:** D  
**Text improvement**

LP_BLOCK_R is not defined

**SuggestedRemedy**

Change to: “LPBLOCK_R”

**Proposed Response**

PROPOSED ACCEPT.

---

**Comment Type:** E  
**Comment Status:** D  
**Text improvement**

“The PMA receive function comprises Transmit Block synchronization, clock recovery for sampling received symbols and adaptive channel equalization. It can be understood that equalization is obligatory. Equalization is up to the implementer, consistent with pg 94, line 4.

**SuggestedRemedy**

Simplify this introductory paragraph to: “The PMA receive function comprises Transmit Block synchronization and the clock and data recovery from the signal received from the PMD receive function.” Symbols are delimited by the clock recovery function in the PMA, which select the optimum sampling instants of time of the received signal. Therefore, I prefer to use the term “signal” instead of “symbol” for the information coming from PMD RX.

**Proposed Response**

PROPOSED ACCEPT.
Cl 166 SC 166.3.4.2 P97 L18 #142
Pérez - Aranda, Rubén KDPOF
Comment Type T Comment Status D
Comment (LOCPHD.TX.NEXT.MODE == 0)
Suggested Remedy
should be: (LOCPHD.TXT.NEXT.MODE = 0)
Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 166 SC 166.3.4.3 P97 L42 #143
Pérez - Aranda, Rubén KDPOF
Comment Type E Comment Status D
"When clock is stable (rcvr_clock_lock = OK), the PHY receiver shall train the equalizers to compensate the …" Equalizer is no mandatory, it is implementation dependent.
Suggested Remedy
should be: When clock is stable (rcvr_clock_lock = OK), the PHY receiver shall train the equalizers (if implemented) to compensate the …
Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 166 SC 166.3.4.3 P99 L1 #145
Pérez - Aranda, Rubén KDPOF
Comment Type T Comment Status D
"The 65-bit blocks decoding function is stopped until the bidirectional link is re-established (link_status = OK)." I think decoding function is not really stopped, because it is generating LBLOCK_R as xMII transfers. I think this sentence can generate confusion and is not providing additional info not already stated.
Suggested Remedy
Remove it.
Proposed Response Response Status W
PROPOSED ACCEPT.
Cl 166 SC 166.4.2
P 105 L 1
# 151
Comment Type: E
Comment Status: D
Text improvement

Suggested Remedy
change to: 65-bit blocks generated by the PCS 64B/65B transmit state diagram (see 166.2.6.2).

Proposed Response
Response Status: W
PROPOSED ACCEPT.

Cl 166 SC 166.4.2
P 105 L 7
# 59

Comment Type: E
Comment Status: D
Text improvement
not "Figure"

Suggested Remedy
delete "Figure"

Proposed Response
Response Status: W
PROPOSED ACCEPT.

Cl 166 SC 166.4.3
P 106 L 34
# 154

Comment Type: T
Comment Status: D
Text improvement
Text "(fast wake signaling state)" is confuse. This state is not defined as part of any state diagram. It is not necessary for accurate specification.

Suggested Remedy
Remove parenthetical text from figure.

Proposed Response
Response Status: W
PROPOSED ACCEPT.

Cl 166 SC 166.4.3
P 106 L 52
# 156

Comment Type: T
Comment Status: D
Text improvement
The PHY receive function shall

Proposed Response
Response Status: W
PROPOSED ACCEPT.
IEEE P802.3cz D1.2 Multi-Gig Automotive Optical Ethernet PHY 2nd Task Force review comments

IEEE P802.3cz D1.2 Multi-Gig Aut

D 1.2 Comment Report

Cl 166 SC 166.5.1 P 109 L 16 # 80
Pérez - Aranda, Rubén KDPOF
Comment Type E Comment Status D Text improvement
“and does not change value unless a PMA reset takes 16 place.” Operating mode does not change unless PMA reset, and value of PHD.TX.NEXT.MODE is a consequence.

Suggested Remedy
Remove word “value”.

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 166 SC 166.1 P 62 L 41 # 51
Pérez - Aranda, Rubén KDPOF
Comment Type E Comment Status D Text improvement
… may use the BASE-U operations, …

Suggested Remedy
Should be: … may use the optional BASE-U PCS-based operations, …

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 166,1 SC 166,1 P 110 L 28 # 133
Pérez - Aranda, Rubén KDPOF
Comment Type T Comment Status D Text improvement
“Upon receipt of this primitive the PMA performs clock recovery for correct time sampling of received symbols and adaptive channel equalization (see 166.3.2).” Equalization is not mandatory. I suggest using more general wording. Specification for PMA receive function is referenced.

Suggested Remedy
Change to: “Upon receipt of this primitive the PMA performs clock and data recovery (see 166.3.2).”

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 166 SC 166.1.2.3 P 111 L 4 # 134
Pérez - Aranda, Rubén KDPOF
Comment Type T Comment Status D Text improvement
In automotive applications, PMD signal detect function is used for implementation of wake-up / sleep functionality. For example, in ECUs integrating 1000BASE-RHC ports, reception of optical power over a threshold is used to wake up a full ECU from deep-sleep state where only few tens of micro-amperes are consumed from the battery.

Suggested Remedy
Add at the end of line 4: “PMD_RXDETECT.indication(OK) may be used to wake up from deep sleep in a system that includes a BASE-AU PHY.” Add at the end of line 7: “PMD_RXDETECT.indication(FAIL) may be used to transition a system that includes a BASE-AU PHY into deep sleep.”

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 166,9 SC 166,9 P 112 L 11 # 135
Pérez - Aranda, Rubén KDPOF
Comment Type E Comment Status D Text improvement
BASE_U
Suggested Remedy
should be: BASE-U

Proposed Response Response Status W
PROPOSED ACCEPT.

Cl Keywor SC Keywords P 2 L 5 # 40
Pérez - Aranda, Rubén KDPOF
Comment Type E Comment Status D Text improvement
Add Physical Medium Dependent, for consistency

Suggested Remedy
Per comment

Proposed Response Response Status W
PROPOSED ACCEPT.

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

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