

# 10BASE-T and 1000BASE-T Changes

The following pages are intended to be, roughly, the pages that would need to be insert into Draft D4.1 of IEEE P802.3af to change the existing PHY requirements to allow double insulated PDs. Some minor amount of editorial changes in format will be required as these were prepared in Word and not Frame hence the fonts, margins and spacings are not quite perfect. The meat of the changes follow the IEEE rules in that:

*All editor's instructions are in bold italic font.*

Alterations are properly formed using only "Change", "Delete" and / or "Insert".

~~Deleted text is shown as strikethroughs.~~

Added text is shown as underscores.

Also, if the pages are incorporated in the text, there will need to be a boilerplate page inserted before each page. You may look a printed page 3 of draft 4.0 for the general format of the page. It is the preface we must include to any changes we make to existing clauses, just as we have done for Clause 22.

Finally, in order to assist the casual readers of the pre-existing two thousand plus pages of 802.3, I have inserted double lined text boxes as comments to the committee members about what each section of my document is addressing. These comment boxes would not be in the pages actually added to our draft.

In addition to the changes to the other sections of 802.3, we also need to alter a section of our specification. To be exact, we need to do the following:

## 33.4.1 Isolation

***Change the first paragraph of this subclause as follows:***

"The PSE and PD shall each provide electrical isolation between ~~the port device circuits~~ all external conductors, including frame ground (if any) and all PI leads."

## 14. Twisted-pair medium attachment unit (MAU) and baseband medium, type 10BASE-T

### 14.3.1.1 Isolation Requirement

Note: This is the change to the normative text

*Change the first paragraph of this subclause as follows:*

“A MAU which has a PD attached to its MDI shall provide isolation between all external conductors, including frame ground, and all MDI leads including those not used by 10BASE-T. A MAU that does not have a PD attached to its MDI ~~The MAU~~ shall provide isolation between the DTE Physical Layer circuits including frame ground and all MDI leads including those not used by 10BASE-T. This electrical separation shall withstand at least one of the following electrical strength tests.”

### 14.10.4.5.11 Isolation Requirement

Note: This is the change to the PICS text

*Change the second row (item 1) of the table in this subclause as follows:*

<u>1a</u>	Isolation, MDI leads to DTE Physical Layer circuits	14.3.1.1	<del>MC</del>		Any one of three tests listed in 14.3.1.1. Function provided by MAUs without PDs attached, as defined in Clause 33.
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*Insert a row between the second and third rows (between items 1 and 2) of the table in this subclause as follows:*

<u>1b</u>	<u>Isolation, MDI leads to all external circuits</u>	<u>14.3.1.1</u>	<u>C</u>		<u>Any one of three tests listed in 14.3.1.1. Function provided by MAUs with PDs attached, as defined in Clause 33.</u>
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## 40. Physical Coding Sublayer (PCS), Physical Medium Attachment (PMA) sublayer and baseband medium, type 1000BASE-T

### 40.6.1.1 Isolation Requirement

Note: This is the change to the normative text

*Change the first paragraph of this subclause as follows:*

“A PHY which has a PD attached to its MDI shall provide isolation between all external conductors, including frame ground, and all MDI leads including those not used by 10BASE-T. A PHY that does not have a PD attached to its MDI ~~The PHY~~ shall provide electrical isolation between the port device circuits, including frame ground (if any) and all MDI leads. This electrical separation shall withstand at least one of the following electrical strength tests:”

### 40.12.2 Major capabilities/options

Note: This is a change to the PICS text

*Insert the following row at the bottom (following item AXO) of the table:*

<u>PD</u>	<u>Powered Device</u>	<u>40.6.1.1</u>	<u>O</u>	<u>Yes</u> [ ] <u>No</u> [ ]	<u>PHY incorporates a PD, as defined in Clause 33.</u>
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### 40.12.7 PMA Electrical Specifications

Note: This is the change to the PICS text

*Change the second row (item PME15) of the table in this subclause as follows:*

<u>PME15a</u>	<u>The PHY shall provide electrical isolation between</u>	<u>40.6.1.1</u>	<u>!PD:M</u>	<u>Yes</u> [ ]	<u>The port device circuits including frame ground, and all MDI leads.</u>
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*Insert a row between the second and third rows (between items PME15 and PME16) of the table in this subclause as follows:*

<u>PME15b</u>	<u>The PHY shall provide electrical isolation between</u>	<u>40.6.1.1</u>	<u>PD:M</u>	<u>Yes</u> [ ]	<u>All external conductors, including frame ground, and all MDI leads.</u>
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