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Straw Polls – Mixing Segment

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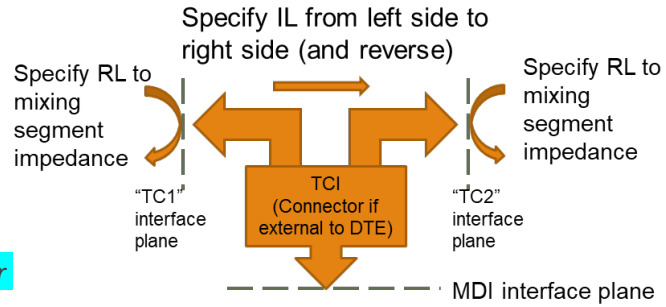
Possible Spec – Trunk Connection Interface

168.7.2a Trunk Connection Interface

The Trunk Connection Interface (TCI) connects the left and right sides of the mixing segment together (trunk port CP1 and trunk port CP2) and has a third port to attach the PMA at the MDI attachment point (see 168.7). The TCI is part of the mixing segment, and the requirements of 169.7 are met with TCIs in place with or without attached MDIs as specified for the particular specification.

A TCI may be a "T" type connector to provide a mean of connecting the segments of balanced conductors and attaching an MDI to the trunk. The connection is specified so as not to disturb the transmission line characteristics of the trunk conductor significantly, except for the increased insertion loss when loaded with a PMA. TCI's with compensation are expected to be matched to a particular PMA.



Without a PMA or PMA loading present, the differential insertion loss of the TCI between the trunk ports shall be less than **TBD** dB *(small number)* from 0.3 to 40 MHz, in each direction, measured into 100 ohms.

With the specified PMA or PMA present, the differential insertion loss of the TCI between the trunk ports shall be less than **TBD** dB *(allows for compensation and phy loading – may be an equation)* from 0.3 to 40 MHz, in each direction, measured into 100 ohms.

Without a PMA or PMA load present at the MDI attachment, the return loss of the TCI at port CP1 and CP2 shall be greater than Equation 169-X with the other trunk port terminated in 100 ohms. *(NOTE – this is to allow meeting the unloaded trunk RL spec)*

With a PMA or PMA load present at the MDI attachment, the return loss of the TCI at port CP1 and CP2 shall be greater than Equation 169-Y with the other trunk port terminated in 100 ohms. NOTE - this specification replaces the MDI return loss and is measured at the TCI.

The TC adaptor and the MDI may be located within a single assembly, presenting negligible stub length when the MDI is open circuit, and may include compensation engaged when a PMA or PMA load is attached. *(NOTE – should we specify the length of a stub, and if so, how – in cm? In ns delay? – alternatively, as TBD shunt capacitance based on the various studies?)*

TEXT IN BLUE HIGHLIGHT MAY BE BETTER LOCATED IN THE MDI SECTION

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Straw Poll #1

I support organizing the 802.3da specification so that any compensation for PHY loading is outside the specification of the mixing segment (i.e., within the DTE)

Y: 28

N: 1

A: 5

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Straw Poll #2

I support eliminating stubs from the definition of the mixing segment, and permitting them (but not requiring them) to be implemented as part of the DTE

Y: 32

N: 1

A: 4

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Straw Poll #3

I support asking the editor to redraw Figure 168-17 to show the stubs as separate from the mixing segment, and submitting draft text for 168.7 to represent the separation, and the relationship of the attachment to the rest of the PHY.

Y: 33

N: 0

A: 3

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Straw Poll #4

I support defining a trunk connection interface (TCI) point to connect the DTE to the medium, as described in zimmerman_3da_01_03092023.pdf, with specified return loss looking into each of the media ports, insertion loss from one medium port to the other, and PHY PMA electrical parameters specified at the medium port reference planes.

Y: 27

N: 1

A: 6