

Clause 169 Baseline

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Proposed Clause 169 text meets power objectives of 802.3da

- ✓ Define performance characteristics of a mixing segment for 10Mb/s multidrop single balanced pair networks supporting up to at least 16 nodes, for up to at least 50m reach.
- ✓ Specify optional plug-and-play power distribution over the mixing segment
- ✓ Specify required electrical and mechanical characteristics for connection methods necessary to achieve communications and powering objectives that allows multiple connector types
- ✓ Specify device characteristics necessary to enable addition and/or removal of a node or set of nodes to a powered mixing segment with a bounded interruption

Converging on a system solution

- ▶ What if:
 - Cable gauge changes?
 - Increase system reach
 - PSE Voltage Changes?
 - Change power per MPD
 - T-Connector Resistance Changes?
 - Change power per MPD
 - Node Count changes
 - Please don't 😊
- ▶ Make slight adjustments to voltage stack-up as necessary



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Proposed Clause 169 Baseline Updates

- ▶ Change section title from **“Link Segment”** to **“Mixing Segment”**
- ▶ Discuss consensus on 15Ω Mixing Segment
 - Allocate more power per node if mixing segment resistance decreases

- ▶ Removed 'the' in the first line of the section:
 - Was :
 - The MPSE provides power to the MPD.
 - Now:
 - The MPSE provides power to MPDs.

- ▶ Added authors note to not adopt section 169.4.3 until the state machine is finished
 - Replace 169.4.3 text with TBD in adopted text until the entire state machine is complete.
 - Right now the inrush and power on states are missing
 - Continue to show proposed text in place to show work in progress and intentions

▶ Section 169.5.2 TCI

- Changed “Mode A” and “Mode B” to “Polarity A” and “Polarity B”
- Updated labels in Table 169-6

▶ Section 169.5.3

- Moved several entries from “169.5.3.3 Variables” section to “169.5.3.2 Constants” section
 - V_{Mark_th} , V_{Off_MPD} , V_{on_MPD} , V_{MPD} , V_{Reset_th} , V_{Type0_th} , and V_{Type1_th}

▶ Added state diagram for inrush / power on as shown in

https://www.ieee802.org/3/da/public/083023/Paul_da_03_2023_08_30.pdf

- Changed name of ‘PON_HOLDOFF’ state to ‘INRUSH’
- Changed PON_NO_POWER exit flag name from ‘RESET’ to ‘IDLE’

Section 169.6, 169.7, and 169.8 Updates

- ▶ Update section numbers to start with '169.'
 - Ex. section numbers started with '6' instead of '169.6'

Straw Polls

- ▶ Straw Polls for acceptance of proposed Clause 169 baseline by section
 - 169.1 Overview
 - 169.2 Mixing Segment
 - 169.3 System type power requirements
 - 169.4 Multi-drop Power Sourcing Equipment (MPSE)
 - Exclude 169.4.3 MPD State Diagram
 - Replace with subsection 169.4.3 text with TBD for now
 - 169.5 Multi-drop Powered Device (MPD)
 - 169.6 Additional Electrical Specifications, 169.7 Environmental, 169.8 PICS
- ▶ Editorial license to be granted for all sections

- ▶ I support adopting the proposed baseline text of section:
"169.1 Overview"
from paul_da_169_baseline_2023_09_12.pdf, with editorial license.
 - Y: 9 + 23 = 32
 - N: 0 + 0
 - A: 0 + 4

- ▶ I support adopting the proposed baseline text from paul_da_169_baseline_2023_09_12.pdf, with editorial license.
 - Excluding subclause 169.4.3 MPSE State Diagram and its sub sections.
 - **Text of subclause 169.4.3 to be replaced with TBD**
 - Y: 9 + 21 = 29
 - N: 0 + 0
 - A: 0 + 4

Thank You!