ISO/IEC 11801-1 Amd1
SPE channels

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- This is not an official Liaison report!
- The described single pair channels (links), backed up by IEC standards for cables and connectors, are currently discussed at ISO/IEC SC25 WG3.
- There is a standard ISO/IEC 11801-6 (information technology- generic cabling for customer premises- Part 6: Distributed building services), which is in development. It describes an overlay network using 4 pair and 1 pair channels
- IEEE802.3 link segment = ISO channel

T1-A Channels 0.1 to 20 MHz (IEEE 802.3cg-2019)

Channel length

- 6/23/2021
  - T1-A-100 100m
  - T1-A-250 250m
  - T1-A-400 400 m*
  - T1-A-1000 1000 m*

*: Similar to ANSI/TIA-568.5

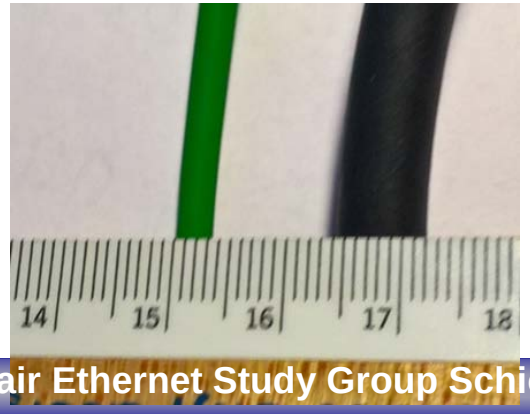
Cable diameter

- T1-A-100/ -250/ -400: ~4-5mm
- T1-A-400**/ -1000: ~9mm

Wire diameter

- ~0.55 mm (AWG 22-23)
- ~0.55 mm (AWG 22-23)
- ~0.55 mm (AWG 22-23)**
- ~1.024 mm (AWG 18)

**: Might change to 1.024mm (AWG 18)



T1-B and T1-C Channels

Goal for T1-B-100 and T1-C-100

Create channels with longer length (at least 100m) and higher bandwidth to build the physical base for higher data rates for future SPE applications.

- 6/23/2021

Channel length, frequency	**Wire diameter**
• T1-B-100 100m, 600MHz	• ~0.57 mm (AWG 23)
• T1-C-100 100m, 1250MHz	• ~0.57 mm (AWG 23)

Insertion loss @20MHz~ 9 dB @100MHz ~20 dB

Alien noise sensitivity T1-C much less than T1-B

- These values are relatively stable and would permit a generic passive network deployment without knowing the application.
- If the application is known at the planning state shorter channels with additional advantages could be installed (this is under development):
- 40m T1-C channel for 1000BASE-T1 (IEEE 802.3bp)
- 160m T1-A for 10BASE-T1L, PoDL Class 15: 52 W

Where do we find 100Mb/s?

- As only short automotive projects were known to ISO this was posponed. In our personal view there are 3 posibilities but we prefer option 1 as being future proof
  - Do not touch the definitions and use T1-B channels (600 MHz) for the 100m generic approach. T1-A is left for low frequency use only.
  - Increase the frequency of T1-A . While this can be done it would have serios draw backs
    - Not consistent with 802.3cg anymore
    - 1p channels would miss a low frequency channel