

# Technical Note

## Channel Configurations – Minimum Distances



**Title:** TN17  
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For the purposes of the Excel Encyclopaedia the configurations and rules are based on the EN 50173 series of standards. The particular section is Clause 6.2.2.2 Dimensions of EN 50173-2:2007+A1:2010 The copper channel comprises of the Equipment Cord through to the Work Area Cord up to, but **excluding**, the end connection (Plug from the Work Area Cord & Jack in the Terminating Equipment).

The maximum channel length supported by the standard is 100 m. There are four recognised channel models ranging from a two connector to four connector configurations. A “connector” in terms of the channel is a plug/jack mated pair. As the channel does not include the connector in the equipment at each end, this is not included in the number of connectors. The maximum length of the Horizontal Cable is calculated based on the Class of the system and the lengths of the attached cords and links. The following general restrictions apply:

- The physical length of the channel shall not exceed 100 m
- The physical length of the horizontal cable shall not exceed 90 m. This may need reducing depending on the length of the attached cords
- Where a MUTO (Multi User Telecommunications Outlet) is used the length of the work area cord shall not exceed 20 m
- Where a CP (consolidation point) is used the horizontal cable length shall be at least 15 m in length. This is to reduce the effect of multiple connections in close proximity. **This minimum length is often misquoted.** The minimum length only applies where a CP is used. See sections c) & d) below.
- The length of individual patch cords or jumpers shall not exceed 5 m

The minimum distances discussed above do not apply to Switch or Harness links, these lengths are governed by the manufacturer’s discretion and in the case of Excel Networking we have successfully tested solid core Harness/Switch Links at less than 5 m.

**Please note;** it is difficult to test short links if in doubt advice should be sought. For example on a short link, the Insertion Loss may never reach 3.0 dB. If that were to happen, then the entire measurement would be ignored, or as the cabling standards phrase it; “recorded for information only”. If this were to happen with your DTX CableAnalyzer, you would see an “i” appear next to the summary result for that test parameter. In LinkWare software, the result would be recorded with “N/A’ at the same time the link can still be recorded as a PASS.

*This Technical Note has been produced by Paul Cave, Technical Manager – Infrastructure, on behalf of Excel*

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