

MODEL 2158 COPPERLINK ETHERNET EXTENDER

TOPIC: Model 2158 Suitability Guidelines

The Model 2158 Copperlink Ethernet Extender is perfect for applications such as on campus Ethernet extension, connecting geographically separated LANs, and delivering ISP services within multi-dwelling units. Many variables determine the actual distance capabilities and performance of the Model 2158 and some cannot be simulated or anticipated in advance.

The Model 2158 Copperlink Ethernet Extender is ideal for many applications, but there are variables that effect actual distance capabilities and performance. A proper site survey should consider these variables and guidelines before selecting the Model 2158 for a particular application. The survey should consider the following:

- Applications where the communications link between the Local and Remote 2158 is bundled with other pairs of wire—particularly those providing DSL and T1 services.
- When using 24 AWG (0.5mm) wire and the link distance (distance between the Local and Remote 2158 Units) is estimated at over 4,000 ft (1.2 km)
- When using 26 AWG (0.4mm) wire and the link distance is estimated at over 3,200 ft (975 m)

Therefore, special care must be taken when considering the Model 2158 Copperlink Ethernet Extender for use in certain applications, in particular “last mile” applications or applications where the communications link between the Local and Remote 2158 is bundled with other pairs of wire—particularly those providing DSL and T1 services. This is due to possible spectral incompatibilities with other types of circuits (E1/T1, DSL, etc.) that may reside in the same cable bundle or in close proximity to the wires used to link the Local and Remote 2158 Units. The frequency band used by the Model 2158 is between 1 and 8 MHz,

communications circuits located near the Model 2158 that use the same or nearby frequency bands could cause signal degradation in the communications link between the Local and Remote 2158 Units. The interference could also significantly reduce Model 2158 distance capabilities or impede communications altogether. Further and most important, the frequency band used in the Model 2158 could degrade or impede communications for other nearby circuits within the Central Office and/or along the path of wires used to link the Local and Remote 2158 Units.

The distance capabilities of the Model 2158 must also be considered and are dependent on the type and gauge of wire used, electrical length of the wire used to connect the Local and Remote 2158 Units, and the surrounding environment (cross talk/noise). Using 24 AWG (.5mm) wire, the Model 2158 is can provide Ethernet extensions up to 4,656 ft (1.42 km) including the potential 328 ft (100 m) Ethernet connections on both ends of the communications link. Using 26 AWG (.4mm) wire, the Model 2158 can provide Ethernet extensions up to 3,856 ft (1.18 km). It is possible to enhance the Model 2158 distance capabilities/performance by using a higher grade (CAT3, CAT5, CAT5E, etc.) or thicker gauge (22 AWG/0.6mm, 19 AWG/0.9mm, etc.) of wire when noise/cross talk is not a factor.



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