

Case study #	1.5
Title	Acoustic noise troubles caused by an electric fence
Type of trouble	Acoustic noise, degradation.
Source of trouble	Electric fence.
System affected	Customer equipment, line.
Location	Customer premises, outdoors.
Keywords	Power transmission line, transformers, screening, mutual coupling earth connection, optical components, optical insulation.
Version date	2004-01-01

System configuration

A customer complained about intense noise troubles on his analogue telephone line. The acoustic noise was permanent with varying intensity. Because of the kind of the problem (clicking interference at regular intervals), it was suspected that the cable (10-pair 0.4-mm copper cable) was being affected by an electric fence close to the cable route, which did not make part of this installation.

An optical fibre cable, with its screen earthed at both ends, was running parallel to the 10-pair copper cable. The optical fibre cable, the multiplexer (optical-electrical) and the 10-pair copper cable ended at the same distribution point. However, a long electric fence was located in the neighbourhood of the optical fibre cable, although not at the copper cable site.

The system configuration of the location is shown in Figure 1.5-1.

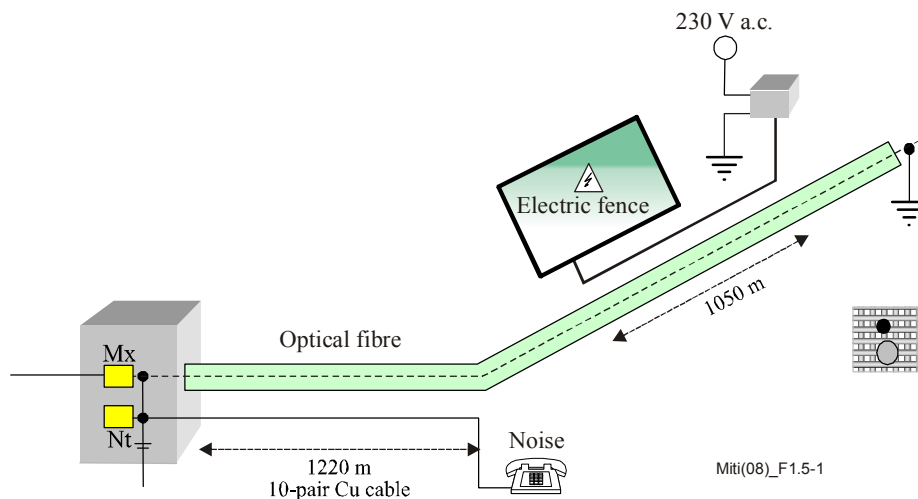


Figure 1.5-1 – System configuration