

Application Note

Using a One Meter Bulkhead Jumper with the 930XC

Introduction

The 930XC OTDR should always be used with a 1m buffer jumper at the bulkhead of the 930XC OTDR.



Benefits of using a 1m Bulkhead Jumper

- Protects the bulkhead finish from contamination and possible damage when connecting to cables and connectors with an unknown level of damage and or contamination.
- If the 1m jumper becomes damaged it can be thrown away and replaced. If the OTDR bulkhead becomes damaged the repair cost is very high for replacement or re-polishing. The OTDR then does not need to be sent back to the factory and remains in use.
- A hybrid 1 m jumper can be used so that any type of field connector can be connected.
- If the 930XC has an angle-physical contact (APC) polished bulkhead the reflection from the OTDR bulkhead will be minimized as opposed to an ultra-physical contact (UPC) or physical contact (PC) bulkhead. The chances of ghosting or artifact pulses is therefore reduced.

Practical Examples

The 930XC with an APC bulkhead and an APC to APC 1m jumper



Mated APC connections have very low reflectivity (<65dB typical)
An open (not connected) APC will have a high reflectivity (~45dB)

The 930XC with an APC bulkhead and an APC to UPC 1m jumper



Mated UPC connections have high reflectivity (~45dB)
An open (not connected) UPC will have a very high reflectivity (~14dB)

The 930XC with an UPC bulkhead and an UPC to UPC 1m jumper



Mated UPC connections have high reflectivity ($\sim 45\text{dB}$)

An open (not connected) UPC will have a very high reflectivity ($\sim 14\text{dB}$)

Ghost Effects

A ghost is a reflection which is really not a reflection but is an artifact of a very high reflection sending light energy back to the OTDR. The light then reflects back off of the highly reflective laser and it then travels down the fiber under test as if it were a laser pulse. Ghosts are always multiples of the highly reflective events. Ghosting can be reduced if the reflection from the bulkhead is minimized, when APC connectors are used and when all connectors are properly terminated.

