

Finding and fixing faults in fiber optic cable (FTTH maintenance)

Using the EXFO OX1 Optical Fiber Multimeter (OFM)



[VividOptics](#) is an EXFO partner in New Zealand. A [VividOptics](#) representative recently accompanied a Chorus technician in action on an FTTH troubleshooting case to restore a customer's Internet connexion with the EXFO OX1. Here's what happened.

Step 1 Checking the power level

The EXFO OX1 OFM has a power checker, so the Chorus technician used it. It found no power. There's a problem to fix.



Step 2 Using the Fault Explorer

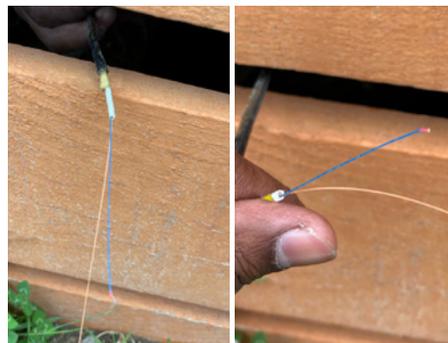
The EXFO OX1 OFM also has a full explorer feature. In this instance, it found a fault 2.1 meters away.

The technician then performed a splice at the house's internal terminal point (ITP) and connected the EXFO OX1 OFM to the spliced cable. It found the fiber "ended" 14.1 meters away.



Step 3 Seeing the fault at the external terminal point (ETP)

The technician looked where the EXFO OX1 OFM determined the break was, and quickly found the problem (and held it in his hand).



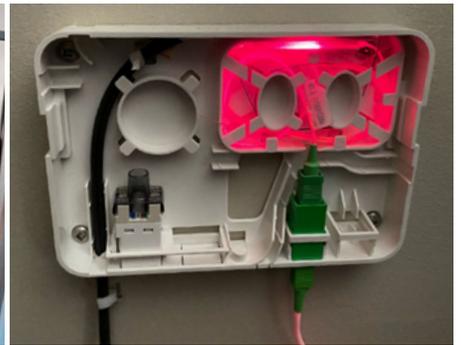
Step 4 Fixing the fault

The technician spliced a pigtail at the ETP, then ran a test until the total air blown fiber flexibility point (ABFFP) was 445 meters. (An ABFFP is an enclosure installed in an underground pit that houses an optical fiber splitter. This splitter acts as a flexible fiber network connectivity point.)



Step 5 Mapping the link

The EXFO OX1 Link Mapper function then identified a faulty splice at 217 meters, causing a failed diagnostic test. This fault was in the fiber flexibility point (FFP) cabinet. (An FFP cabinet is an enclosure that provides a connectivity point between feeder fibers from the CO, to the distribution fiber, to the premises.) So the technician fixed this problem too.



Step 6 Validating the link

The technician ran a power check using the EXFO OX1 OFM. It found the live link to be functional. Problem solved.



Finding faults faster

All six steps listed here took less than 30 minutes. The technician credited the EXFO OX1 OFM for making this troubleshooting work faster and easier, and colleagues and management at Chorus took notice as well.

Learn how to verify an entire active link, measure all key optical parameters and flag weaknesses and faults that may prevent optimal performance [- in one quick step >](#)

