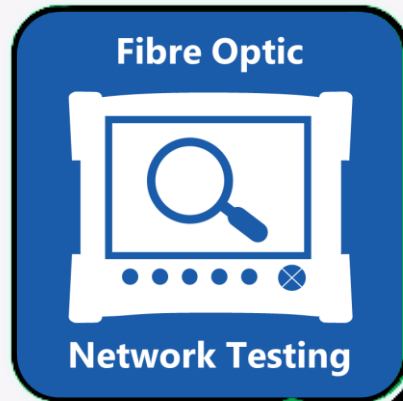
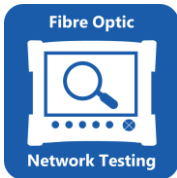






Fibre Optic Network Testing

2 days

Purpose

This course is designed specifically for those who want to build up a solid knowledge of testing fibre optic networks. Depending on your environment the practical sessions can be focussed on different application areas such as data centres, Enterprise/LANs or Telecom network links (up to 40km).

We'll briefly review routine testing issues before looking at the basic capabilities & limitations of an OTDR. An OTDR is a powerful tool for acceptance testing and for fault diagnosis of fibre optic cabling. You'll learn to set up the OTDR correctly, carry out testing efficiently and effectively, using methodical file naming & checking that results are valid. You'll learn how to manage & control the complete testing process successfully from correctly interpreting test specifications, successful data acquisition, analysis & interpretation of results.

This course is suitable for test engineers responsible for the acceptance testing and fault diagnosis of fibre optic cabling. It is also suitable for managers, and technical support staff responsible for analysis of OTDR test results & production of test reports.

Features

- ❑ small, informal groups to provide the best learning experience
- ❑ hands-on experience with the equipment
- ❑ realistic practical exercises
- ❑ comprehensive course manual for reference
- ❑ access to supporting online resources

Key outcomes

Be able to:

- ✓ carry out inspection of fibre optic connectors and adaptors with a video probe
- ✓ carry out continuity and insertion loss testing
- ✓ explain why you are carrying out OTDR testing on fibre optic cabling
- ✓ interpret and evaluate basic test specifications
- ✓ optimise OTDR test parameters and measurement conditions to enhance the acquisition of the required information
- ✓ speed up data acquisition using automatic routines & other features of your OTDR
- ✓ interpret and analyse OTDR traces, event tables and icon based link maps
- ✓ recognise and deal with any problems/issues you might encounter when using an OTDR
- ✓ explain the parameters that you are testing and recognise the range of results that you might expect
- ✓ make an assessment of the quality of the fibre infrastructure

Pre-requisites

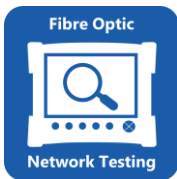
The course assumes a basic knowledge of fibre optic technology, & terminology.

If you/your team are new to fibre optics or fibre testing then consider the three day OTT course instead.

If you need to carry out CD, PMD and SA testing then choose an OTT CFCE (Certified Fibre Characterisation Engineer) course.



Testing
course



Fibre Optic Network Testing

2 days

Testing
course

ROUTINE TESTING REVIEW

INSPECT+CLEAN CONNECTORS

- ☐ Why do we inspect & clean?
- ☐ Inspection standards
- ☐ Inspection equipment
- ☐ Cleaning equipment
- ☐ Connector care
- ✓ Hands-on practical: cleaning and inspecting connectors

CONTINUITY & POLARITY TESTING

- ☐ Continuity testing
- ☐ Polarity checking
- ✓ Hands-on practical: continuity and polarity

TESTING TELECOMS LINKS

- ☐ Optical power & loss budgets
- ☐ Equipment
- ☐ Insertion loss measurements
- ☐ Reporting
- ✓ Hands-on practical: ILM

OTDR TESTING

PREPARING FOR OTDR TESTING

- ☐ Specification of parameters
- ☐ Resources checklist
- ☐ Management of test results
- ✓ Hands-on practical session

OTDR INTRODUCTION

- ☐ What is OTDR testing?
- ☐ What can it do for us?
- ☐ How does it work?

OTDR CAPABILITIES

- ☐ Distance measurements
- ☐ Fibre loss measurements
- ☐ Bending losses
- ☐ Splice loss measurement
- ☐ Connector losses
- ☐ Link return loss (ORL)

OTDR LIMITATIONS

- ☐ Dynamic range
- ☐ Dead zone
- ☐ Resolution

TEST CONFIGURATIONS

- ☐ Cable on a drum
- ☐ Installed cable before termination

- ☐ Connectorised systems

USING THE OTDR

- ☐ Step by step guide
- ☐ Manipulating the trace
- ☐ Measurement parameters
- ✓ Hands-on practical: setting up the OTDR and testing simple links

OTDR ISSUES

- ☐ Poor launch conditions
- ☐ Interfacing with bare fibres
- ☐ Ghosts
- ☐ Fibre mismatches
- ✓ Hands-on practical: testing more complex links and channels

OTDR TRACE ANALYSIS

- ☐ What info do we want?
- ☐ Analysis of a single trace
- ☐ Multiple wavelength traces
- ☐ Analysis of multiple fibres

- ☐ Bi-directional analysis
- ✓ Hands-on practical: bi-directional OTDR testing
- ☐ OTDR trace comparison
- ✓ Hands-on practical: trace analysis exercises, basic and advanced

USING OTDR SOFTWARE

- ☐ OTDR viewer software
- ☐ Automatic event detection
- ☐ Comparing OTDR traces





enquiries.ap@commslearning.com



From NZ: 0800 4 COMMS (26667)
International: +64 (0) 21 33 20 20



Rangiora,
Canterbury

Training Centre
Rosedale Road, Albany

CommsLearning, founded by Andy Edwards in 2002, specialises in providing training in ICT and Telecommunications, to a broad range of clients around the World spanning the banking, retail, utilities, telco, military, airline, technology and media industries. Now based in the Asia Pacific region, Andy is the CEO and Head of Technical Delivery and is focussed on instructor-led technical training, delivering training in New Zealand, the Pacific Islands and Australia; a role that his 40+ years of telecommunications experience qualifies him well for. Andy also works with local partners across the Asia Pacific region who are able to help with specific requirements.



Andy is licensed by Optical Technology Training to teach the OTT CONA, CFCE, CONE and short testing courses.