

# Optical Loss Test Set

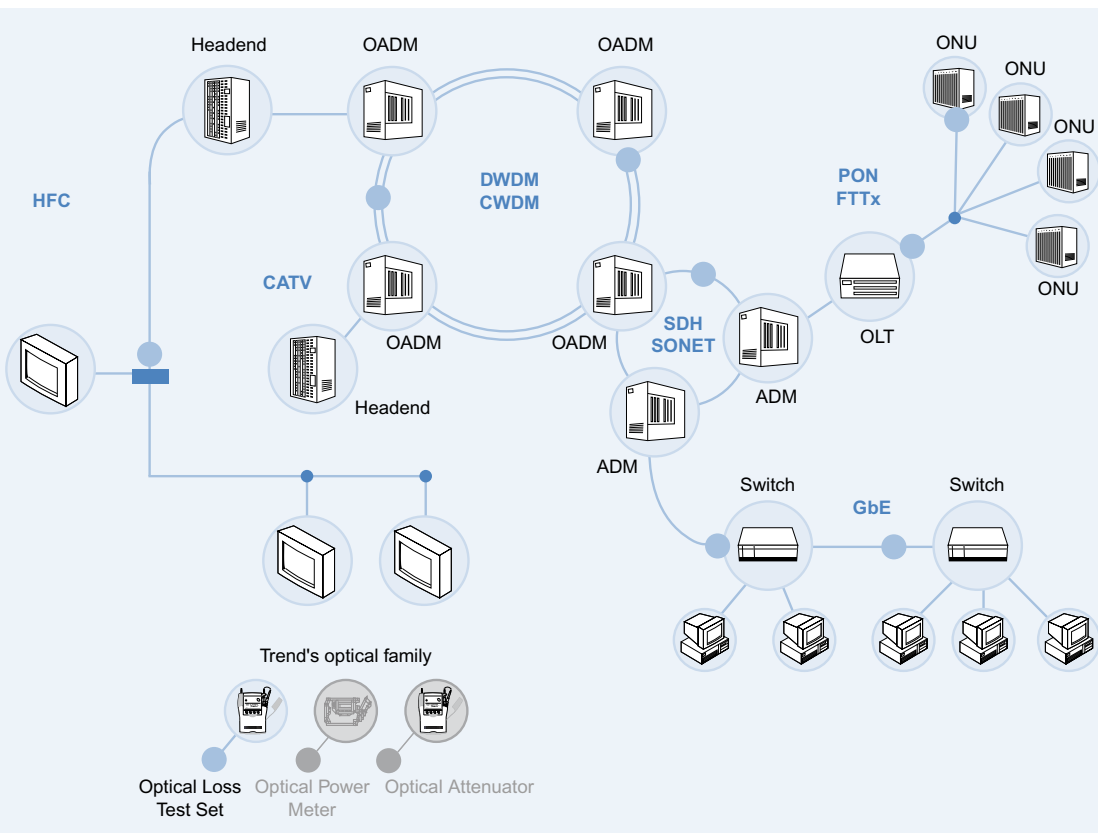


Today, optical technology is universally used for communications applications. The bandwidth of core networks is growing thanks to Wavelength-Division Multiplexing (WDM). Gigabit Ethernet is bringing optical communications to the LAN, and optical technology seems to be very suitable for residential customers using the Fibre to the x (FTTx) access network.

Trend's family of optical testers are designed to be productive in the new age of optical communications. Easy operation, rugged design and long battery life make these testers ideal for field use.

Trend's Optical Loss Test Set is capable of characterizing the loss of optical communications networks. The outstanding features of this tool include a large memory to store results, external PC software for analysis, and an automatic test function to simultaneously configure compatible testers participating in the measurement.

The tester can also be used as a laser source or as a power meter. So, it is actually *three* instruments in one hand-held package.



- Ergonomic, rugged for field use
- Zero warm-up
- Light source and Power meter
- Auto test with other testers
- Field-replaceable connectors
- Long battery life
- High accuracy
- Remote control freeware
- High contrast LCD with light
- Fully traceable calibration
- 3 year calibration period
- Real time PC software
- Memory to store results
- Hidden keypad for advanced functions

# Zero Warm-Up period

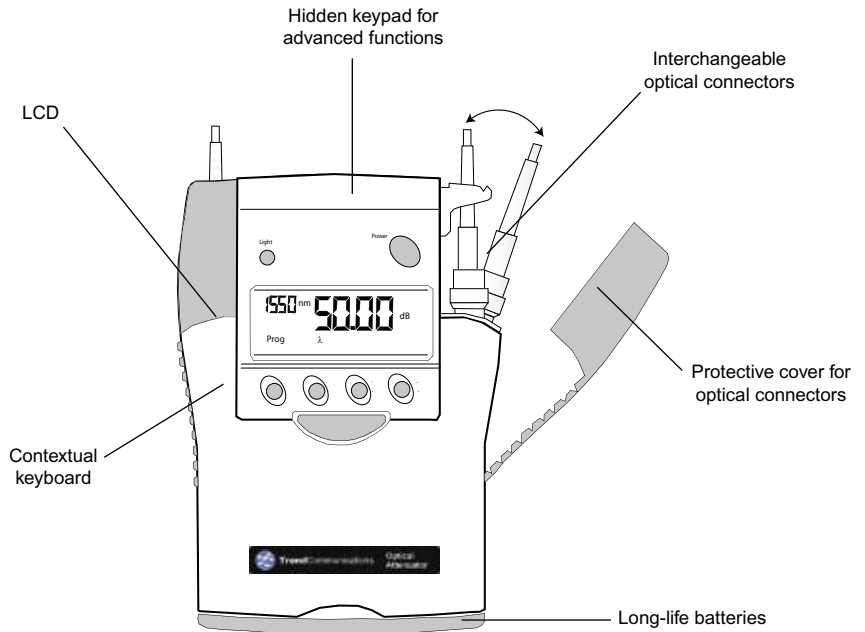
## Productivity and Performance

Loss is one of the first parameters to be measured after installing a new optical link.

Trend's Optical Loss Test Set is the most valuable tool for this. It has a zero warm-up period, so there is no need to wait for the tester to stabilise after switching it on.

The snap-on optical connectors are field-replaceable to facilitate interconnection and substitution.

The result is a tester with superb performance and productivity features that can carry out an acceptance test in two seconds and one mouse click.



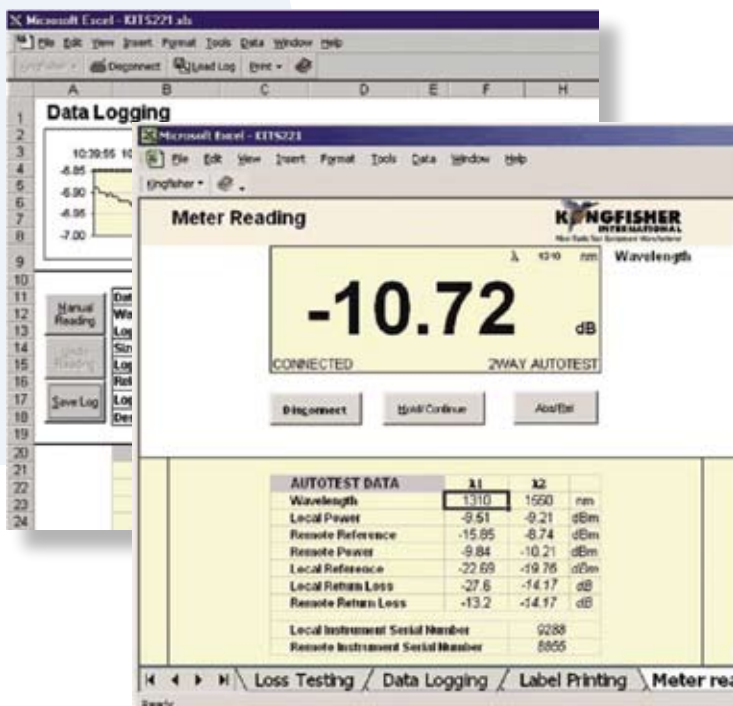
- 24 calibrated wavelengths for CWDM detector testing
- 2 laser source wavelengths
- Tone generation and detection



## Remote Management

The exclusive remote control and analysis software extends and improves the measurement capabilities of Trend's Optical Loss Test Set:

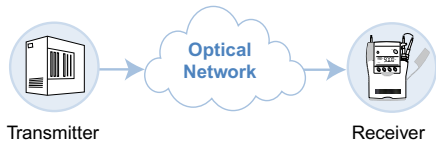
- Live interactive display: ideal for remote management or as a training tool.
- Real-time data logging: Live graphs and statistical functions with data saved directly to disk.
- Result storage: Results can be stored in the tester's memory and later exported to a spreadsheet from multiple test sets.
- Label printing for easy fibre identification: user-definable formats, any size.
- Based on an easily-portable spreadsheet format.



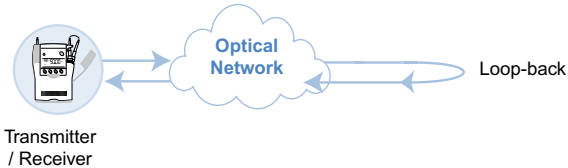
# A Rugged Design

– for testing anywhere

## Single Direction Loss Test



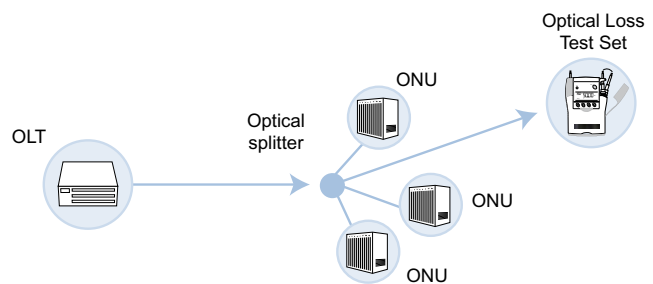
## Loop-back Loss Test



## Received Power in PONs

In Passive Optical Networks (PON), the signal from the Optical Line Termination (OLT) crosses through a passive optical splitter that causes extra attenuation.

The Optical Loss Test Set evaluates the received power and optical loss at the customer side and checks if these are within acceptable ranges.

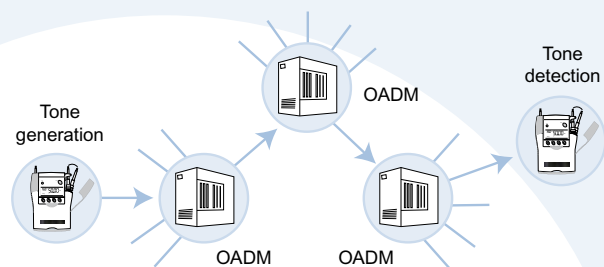


## Fits Everyone's Needs

Trend's Optical Loss Test Set is suitable for both for monomode and multimode fibres.

The tester includes a highly accurate optical Indium-Gallium-Arsenide (InGaAs) detector, and highly stable laser light sources that generate variable optical power at 1310 nm and 1550 nm.

The tester is provided with all the accessories you need to start testing in the field, including snap-on FC and SC sets, field-replaceable optical connector adaptors and a protective holster.



- Tone generation and detection for fibre tracing
- Max. / Min. recording for stability testing
- Adjustable output power
- Auto test compatibility with other testers of the family
- Accuracy of 0.09 dB
- 1 m drop tested

## Continuity Test

Trend's Optical Loss Test Set can identify an optical fibre with the help of the tone generation and detection feature, where a test signal of selectable frequency is transmitted through the optical fibre.

This feature is also useful to test end-to-end transparency of optical links and networks.

## Optical Loss Test Set

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Laser Sources</b>     | <p>2 wavelengths: 1310 ± 20 nm, 1550 ± 20 nm<br/>                 Output power: -6 dBm to -12 dBm in 0.01 dBm steps<br/>                 Zero warm-up<br/>                 Short term stability (first 15 min): 0.03 dB<br/>                 Stability over temperature 0.2 dB max. (-15 to 55 °C)<br/>                 Spectral width: 3 nm (FWHM, typical)<br/>                 Temperature drift: 0.4 nm /°C (typical)<br/>                 Reconnection repeatability: 0.1 dB (95% confidence)</p>                                                                                                                                                                                                                                                                                              |
| <b>Power Meter</b>       | <p>Detector Type: InGaAs<br/>                 Calibrations: 24 wavelengths from 820 to 1650 nm, including all of the CWDM wavelengths<br/>                 Accuracy: 2% (0.09 dB)<br/>                 Response 800 ~ 1700 nm: Power range +15 ~ -50 dBm<br/>                 Response 980 ~ 1660 nm: Power range +15 ~ -60 dBm<br/>                 Damage Level: +25 dBm<br/>                 Mid range Linearity: 0.02 dB (excludes top 3 dB and bottom 10 dB of range)<br/>                 Polarisation Sensitivity: &lt; 0.005 dB (typical)<br/>                 Total Uncertainty: 0.3 dB (max.)<br/>                 Fibre Core Diameter: 200 micro meters (max.)<br/>                 Tone detection and buzzer from 150 to 9999 Hz<br/>                 Display in dBm or micro Watts</p> |
| <b>Functions</b>         | <p>Output tone modulation 270 Hz, 1 kHz, 2 kHz (±2%)<br/>                 Auto test<br/>                 Bidirectional testing using two fibres<br/>                 Relative mode to eliminate connector / patch cord errors</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>External Software</b> | <p>PC software for real time test and long term monitoring<br/>                 Connection RS-232: 3.5 mm jack connector<br/>                 PASS / FAIL assessment<br/>                 Remote Control, Data download, Multi language setup, Data logging, Label printing,<br/>                 Two way loss recording</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Results Storage</b>   | <p>Capacity 1999 complete sets of results for each wavelength:<br/>                 - Power<br/>                 - Reference level<br/>                 - Source power<br/>                 - Tester serial number</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Ergonomics</b>        | <p>Case: Polycarbonate. One meter drop tested<br/>                 Size: 190 x 130 x 70 mm.<br/>                 Weight: 0.5 kg<br/>                 Operating / Storage: -15 to 55 °C / -25 to 70 °C, humidity &lt;95%<br/>                 Hidden keypad: For setting advanced functions<br/>                 Interchangeable connectors, protected, metal free, easy cleaning for SC and FC</p>                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Power</b>             | <p>External 9V DC option<br/>                 Battery: 2 alkaline 'C' cells<br/>                 Duration (alkaline cells): 360 h when laser off, or 190 h when laser on<br/>                 Selectable auto-off, Low battery indicator</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Accessories</b>       | <p>NATA traceable calibration certificates including: Power Meter,<br/>                 Output power &amp; wavelength<br/>                 Carry Pouch, Carry strap, Leather protective holster, PC software with RS-232 cable,<br/>                 batteries and a User Guide</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

