

Article Overview

For accurate OTDR testing, use launch and receive cables that match the fiber type under test, with sufficient length to measure connector losses at both ends.

Launch and Receive Cables

Launch cables (also called pulse or "launch" fibers) are connected between the OTDR and the fiber under test to allow the OTDR to measure the first connector and splice accurately. Receive cables are connected at the far end of the fiber link to capture the loss of the last connector and ensure the far-end events are properly characterized .

Key Recommendations:

- o **Fiber Type Matching:** The launch and receive cables should match the fiber under test in type, core size, and modal field diameter (MFD) to avoid measurement errors .
- o **Length:** Launch cables are typically long enough to allow the OTDR to resolve the first connector; receive cables should be of similar length to measure the far-end connector. Standard lengths for MPO connectors are 20 m or 25 m .
- o **Connector Compatibility:** Ensure the connectors on the launch and receive cables match the connectors on the fiber under test to prevent reflection or insertion loss discrepancies .
- o **Bidirectional Testing:** For more accurate loss measurements, perform OTDR testing in both directions and average the results to account for differences in backscatter coefficients between fibers .

Best Practices for OTDR Testing

- o **Use OTDR for Event Mapping:** OTDRs are ideal for identifying splices, connectors, and faults along the fiber, especially for long cables or networks with multiple splices .
- o **Complement with OLTS:** While OTDRs provide detailed event analysis, use an Optical Loss Test Set (OLTS) to measure total insertion loss accurately, as OTDRs are not designed for precise end-to-end loss measurements .
- o **Documentation:** Record the initial OTDR trace when the fiber is installed. Future traces can be compared to detect degradation or faults .
- o **Maintenance:** Regularly inspect and clean connectors and maintain the launch/receive cables to ensure consistent measurement quality . By following these recommendations, OTDR testing can provide precise characterization of fiber optic networks, ensuring reliable performance and easier troubleshooting.



Recommended OTDR optical cable lines

OTDR measurements: Complete guide according to DIN EN 61280-4-2. standard-compliant

Understand OTDR testing, traces, launch cables, events and what test documentation matters for fiber optic links.

An Optical Time Domain Reflectometer (OTDR) is a valuable fiber optic testing device used for accessing network construction,

The use of OTDR testing of premises cable plants instead of insertion loss testing causes much confusion among contractors and

1 Testing Tier 2 testing involves the use of an optical time domain reflectometer (OTDR) to provide a trace (visual picture) of the

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Fiber optic testing is one of the crucial stages in evaluating optical networks. This is made more accessible because

Since fiber optic cable has about 1% excess fiber, the actual cable length is less than the fiber by that amount. The OTDR makes its

The FOA Reference Guide To Fiber Optics Frequently Asked Questions On OTDRS And Hints On Their Use OTDRs, also known by

What are the recommended length for launch cables for OTDR testing? Desired length for a launch cable is based on

Find out which launch and receive cables you should use with your Optical Time Domain Reflectometer (OTDR) for

Share post Interpreting OTDR Trace Results Fiber optic networks require precise testing to maintain performance,

OTDR testing isn't just Auto Test. Master launch cable setup, dead zone management, and trace interpretation to avoid

VIAVI Solutions recommends bidirectional OTDR tests for critical applications: "In these

Based on ITU-T G650.3 recommendations and IEC references, when using an OTDR, launch and receive cables must be used to

Recommended OTDR optical cable lines

Precise Fiber Length Measurement: How long is that fiber optic cable, really? Our OTDR

Web: <https://in-au.co.za>

