

Brochure

VIAVI T-BERD/MTS AOC/DAC/Breakout Cable Tester

Testing using the T-BERD®/MTS 5800–100G,
T-BERD/MTS-5822P, or MAP-2100

Active Optical Cable (AOC) and Direct Attach Copper (DAC) assemblies have emerged in the marketplace as an alternative to the combination of patch cords and pluggables in short-distance, high-performance computing applications such as data centers. The benefits AOC and DAC cables include lower costs and in the case of AOC, no risk of connector contamination by dirt. AOC and DAC cables are available either with the same termination at both extremities or as a breakout with multiple SFPs terminating onto a single QSFP. However, without the right equipment, testing those cables is a big problem.



Benefits

- An efficient, script-driven test helps avoid discarding good AOC/DAC/breakout cables
- Simplified multi-technology testing with an all-in-one dual-port handheld unit
- Optimized for field use with a multitouch screen, battery and AC support, scripted workflows, clear pass/fail results, and full report generation capabilities
- Supports efficient best practices with repeatable methods and procedures

Features

- Job Manager supports the use of test plans, and provides test reports for multiple tests as part of a job
- BER stress testing on all Ethernet rates; 10G, 25G, 40G, 100G
- Supports RS-FEC at 25GE and 100GE to provide pre- and post-FEC results
- Physical ports for SFP- and QSFP-terminated cables
- OTDR option

Applications

- Test AOC/DAC/breakout cables before installation with a single unit
- Troubleshoot AOC and DAC cable performance once installed using two units
- Platform also provides full Ethernet/IP network testing and troubleshooting at 10 Mbps to 200 G (16 QAM) interfaces for data center interconnect and core/metro networks
- Fiber link characterization and troubleshooting
- Installation and maintenance testing in core and mobility networks also available with a 5G-ready unit



More than Cables

AOC and DAC cables are not simply cables but assemblies with multiple components, including optical transceivers (QSFP or SFP) attached to each end which prevent access to the fiber/electrical connectors, making testing them very challenging

What's more, although the usage of these new cables is straightforward, AOC/DAC/breakout cables can be the source of errors in a system and need to be tested. Defects can be caused by mismatched polarities, excessive bends, crushed/squeezed optical fibers, or electromagnetic interference (EMI) for DACs. Without the ability to test AOC/DAC/breakout cables, technicians will discard mis-performing cables without knowing with certainty that they are malfunctioning.

Test Before Cables are Laid

AOC/DAC/breakout cables can easily be tested against transmission defects with a purpose-built test on the VIAVI T-BERD/MTS 5800-100G test set (available on both the single- and dual-port models). The compact unit's Cable Test script and report capabilities provide dual SFP+/SFP28/QSFP+/QSFP28 ports for quick and efficient testing of AOC/DAC cables.

With an easy-to-use test unit and the Cable Test script, AOC/DAC/breakout problems can be identified before cables are laid, avoiding the extra effort to replace the cable already in production. In cases where the cable has already been installed, it is still possible to troubleshoot it if a link experiences problems. Throwing away perfectly good AOC and DAC cables is a business practice to be avoided. Further, the 5800 job manager provides a framework to effectively test multiple cables in succession and generate a unified test report.



Portable and Rack-Mounted Interoperability

The VIAVI cable tester is available in the configurable T-BERD/MTS 5800-100G (single- and dual-port models) as well as the MAP-2100. The 5800-100G is the industry's smallest dual-port 100G handheld test instrument, making it ideal for AOC/DAC testing in tight spaces. In addition to AOC/DAC testing, it can test a wide range of interfaces including Ethernet, SONET/SDH, OTN, Fibre Channel, and CPRI/OBSAI. The T-BERD/MTS 5800-100G provides:

- Compact form factor for easy portability:
- 7 x 9.5 x 3.2 in (17.8 x 24.1 x 8 cm)
- A large, 7-inch multi-touch display
- A tablet-like interface for easy navigation through test information and advanced workflows
- Integrated WiFi and Bluetooth for easy connectivity
- SmartAccess Anywhere support, providing an easy interface from an iOS, Android or Windows device
- Cloud-based StrataSync™ for asset management and result-data management

The rack-mounted MAP 2100 is designed to securely run high-performance bit error rate tests in unmanned data centers, creating the ability to remotely test transmission quality of interconnects between data centers, central offices, or head ends.

Compatible with VIAVI Solutions Fiber Test Tools

- Metro/longhaul, business services, and data center technicians can test virtually any interface in a network as well as qualifying fiber plants with one handheld instrument. The T-BERD/MTS 5800–100G is compatible with many VIAVI test solutions:
- The P5000i and FiberChek Pro fiber microscopes for connector end-face inspection and analysis
- MP-Series optical power meters for optical power and loss measurements
- The industry's most complete set of OTDR modules for fiber link characterization and fault-finding, including Smart Link Mapper optical analysis software that displays OTDR results in a simple, icon-based map view for clear diagnostics of detected issues
- COSA, a CWDM Optical Spectrum Analyzer

AOC/DAC/breakout Cable Test

Cable Test is tailor-made to test AOC/DAC/breakout cables inside the data center. Such cables may be the cause of errors due to defects such as reversed polarities or squeezed fibers. Errors can be identified before cables are laid, avoiding extra effort to replace the cable. A built-in script with test report guides the user through the process.

Optics Self-Test

Optics Self-Test is a workflow tool to verify and troubleshoot performance issues related to pluggable optics. It is especially well-suited to field environments and helps isolate pluggable optics issues. This easy-to-use test integrates items such as a bit error theory algorithm, clock offset verification, module temperature, and per-lambda power monitoring. Coupled with RS-FEC, it offers pre-FEC and post-FEC testing

StrataSync — Empower Your Assets

StrataSync is a hosted, cloud-enabled solution for managing assets, configurations, and test data on VIAVI instruments. It ensures that all instrument software is current and the latest options are installed. StrataSync enables inventory management, test result consolidation, and performance data distribution anywhere with browser-based ease. It also improves technician and instrument efficiency. StrataSync manages and tracks test instruments, collects and analyzes results from the entire network, and helps train and inform the workforce.



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