WESTERN OPTRONICS

RoHS COMPLIANT



16T2

Multi-Port 1.6T Network Tester

The Western Optronics 16T2 is a high-density 1.6T/800G network test platform with 212G SerDes, designed for comprehensive testing of optical modules, active optical cables (AOCs) and active electrical cables (AECs). Its modular 3-slot architecture accommodates 1 to 3 test modules in any combination. Full-line-rate parallel testing supports up to 3 × 1.6T ports, 12 × 800G ports, or mixed configurations, helping shorten validation cycles and reduce lab footprint and total cost of ownership.

The platform natively interoperates with 1.6T/800G Ethernet switches and generates real-world Layer 2 traffic for performance and interoperability validation. Integrated test suites cover RFC 2544 benchmarking, optical-module stress testing and automated CMIS 3.0-5.3 compliance. More than 1,700 built-in CMIS test cases include VDM diagnostics and CDB firmware upgrades.



Western Optronics 16T2 modular network test platform

Port Configuration and Capacity

Configuration	Maximum port configuration	Aggregate test capacity
All 1.6T	3 × 1.6T	4.8T
All 800G	12 × 800G	9.6T
Mixed 1.6T / 800G	Depends on installed test modules	4.8T-9.6T

Capacities apply to a fully populated 3-slot configuration with full-line-rate parallel testing.

Applications

1.6T / 800G optical-module, AOC and AEC validation; optical-module-to-switch interoperability; Ethernet performance benchmarking; CMIS compliance and module stress testing.

Hardware Features

Parameter	Specification or capability
System architecture	Integrated CPU and Linux OS; no external PC or additional software installation. Connect a display for standalone operation.
Touchscreen interaction	One-cable full-touchscreen design with a responsive human-machine interface.
Modular slots	3 independent slots; install 1 to 3 test modules in any combination.
Port density	Up to 3 × 1.6T ports or 12 × 800G ports; mixed 1.6T/800G configurations supported.
Supported rates	1.6T, 800G, 400G, 200G and 100G.
Module form factors	OSFP, OSFP-RHS and QSFP-DD.
SerDes performance	212G SerDes with high signal integrity; validated by optical-module vendors.
Aggregate test capacity	Up to 9.6T with all three slots populated. See the port configuration table for 1.6T, 800G and mixed configurations.
Thermal management	Thermal stability under full load with intelligent fan-speed control.
Maintainability	Wear-prone components, including optical-module connectors, are separated from high-value core processing units to reduce long-term operational expenditure.

Software Features

- **Fast test mode switching:** Test mode changes complete in seconds, compared with 3-5 minutes for competing products, maximizing productive testing time.
- **Intuitive software:** User-friendly graphical interface and streamlined workflows.
- **Unified results dashboard:** Critical data on one screen for efficient assessment.
- **Multi-user resource sharing:** Secure, parallel multi-user operation with isolated port resources.
- **Multi-language support:** English and Chinese user interfaces.
- **Test automation:** Application-centric APIs for integration into user test workflows.

Ethernet Testing Capabilities

Supported Ethernet protocol test suites: 800GE, 400GE, 200GE and 100GE.

Test function	Capability
PHY and PCS validation	Pre- and post-FEC BER under real Ethernet traffic; advanced FEC analysis, including FEC margin and symbol error distribution.
Layer 2 verification	L2 protocol and feature testing for standards compliance.
RFC 2544 benchmarking	Throughput, latency, frame loss and back-to-back frames.
Frequency offset	Per-channel ±100 ppm frequency offset and measurement for IEEE 802.3 compliance verification.
Alarms and monitoring	Alarm insertion and performance monitoring at the PHY, PCS and MAC layers.
PCS error insertion	FEC errors, block errors and sync header errors.
Frame structures	MAC, VLAN, MPLS, UDP, IPv4 and IPv6.
Traffic profiling	Fine-grained bandwidth control from 0.01% to 100%; constant, burst, periodic and ramp traffic patterns.
QoS and packet errors	QoS assessment and packet integrity analysis.
Service disruption time	High-accuracy service disruption time (SDT) measurement.

Module Compliance and Debugging

- **CMIS compliance:** Automated CMIS 3.0-5.3 protocol compliance; more than 1,700 test cases, including VDM diagnostics and CDB firmware upgrades.
- **Optical-module stress testing:** Voltage margining, frequency offset and multi-rate I²C stress testing.
- **Advanced debugging:** Multiple loopback paths, Tx SerDes tuning and optical-module pin control.

Document Control

Document ID	Revision	Issue date
WEOG-16T2	V1.00	2026-09-27

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