T-BERD/MTS-5800
All-in-one handheld network and fiber testing

The T-BERD®/MTS-5800 handheld network tester is the one tool that network technicians and engineers need to install, turn-up, and maintain their networks. It supports both the legacy and emerging technologies required to handle various network applications including metro/core, mobile backhaul, and business services installations.

The industry's smallest handheld instrument can test throughout the service life cycle, including fiber characterization, service activation, troubleshooting, and maintenance. Advanced Ethernet test features such as TrueSpeed per RFC 6349, J-Profiler™, Wirespeed capture/decode, and automated J-Mentor, help field technicians test their networks faster and more accurately than ever before.

BENEFITS

- Simplifies multitechnology testing with an all-in-one dual10 G handheld
- Optimized for field use with a multitouch screen, scripted workflows, and clear results
- Supports efficient best practices with repeatable methods and procedures with Job Manager guided workflows
- Speeds fiber characterization, Ethernet service activation, and troubleshooting

KEY FEATURES

- Fully-loaded TDM/PDH to dual 10 G Ethernet, SONET, SDH, Fiber Channel, CPRI/OBSAI, eCPRI, and OTN support
- Automated, enhanced RFC 2544 and SAMComplete testing per ITU-T Y.1564
- Integrated burst testing approach per MEF 34 and RFC 6349 TrueSpeed™ TCP throughput testing
- Timing/Synchronization testing with PTP, SyncE, and 1 PPS, 2 MHz and 10 MHz Wander
- Compatible with VIAVI 4100-Series OTDR, FiberComplete, and COSA modules with Smart Link Mapper™, fiber microscopes, and optical power meters

APPLICATIONS

- Mobile and backhaul characterization, validation, and troubleshooting
- Converged Ethernet/IP network testing and troubleshooting at 10 Mbps to 10 G interfaces
- Fiber link characterization and troubleshooting
- Installation and maintenance of OTN and legacy SONET/SDH and TDM/PDH networks
- Remote radio head (RRH) testing at the wireless basestation, including CPRI 1-9 rates
- PIM and interference testing over optical links (RFoCPRI)
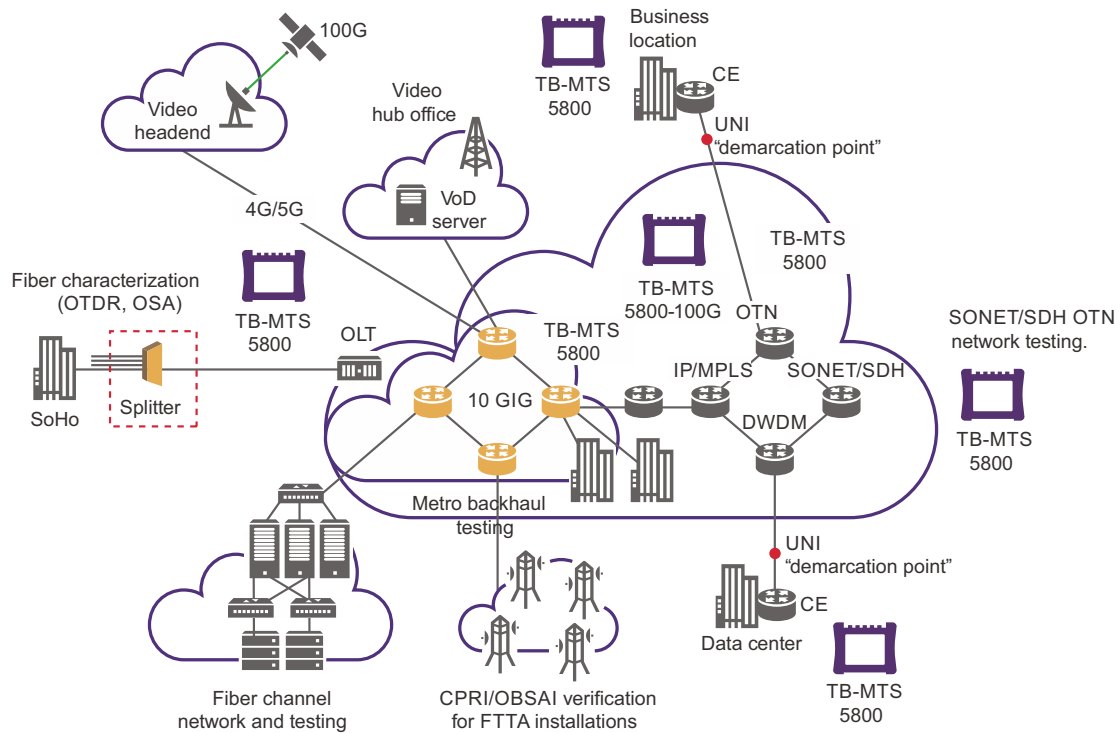- Next generation Fronthaul eCPRI support

Figure 1. T-BERD/MTS-5800 in the carrier Ethernet network

All-in-One Handheld Tool

The configurable T-BERD/MTS-5800 is the industry's smallest dual 10 G handheld instrument for Ethernet, SONET, SDH, OTN, Fiber Channel, and CPRI/OBSAI testing:

- All test interfaces are readily available
- Compact form factor for easy portability:
  7 x 9.5 x 3 in (17.8 x 24.1 x 7.62 cm)
- Large 7 in multi-touch display
- Tablet-like interface for easy navigation through test information and advanced workflows
- Integrated WiFi and Bluetooth lets you easily connect test sets and offload results

Compatible with VIAVI Solutions Fiber Test Tools

Mobility, business services, and metro technicians can now test virtually any interface in their network as well as qualify fiber plant with one ultra-portable instrument. The T-BERD/MTS-5800 is compatible with:
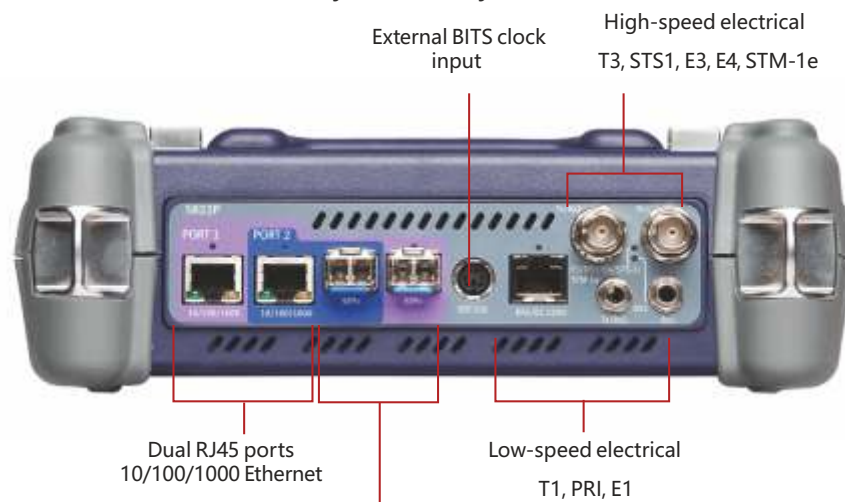
- The P5000i fiber microscope for connector end-face inspection and analysis
- MP-Series optical power meters for optical power and loss measurements
- OTDR modules for fiber link characterization and fault finding
- Smart Link Mapper optical analysis software that displays OTDR results in a simple, icon-based map view for clear diagnostics of detected issues

Optimized for Easy Field Use

- Fixed test interfaces eliminate loose pluggable modules
- LEDs indicate plug-ins for tests
- A streamlined user interface provides simple pass/fail, green/red results
- Extended battery life enables longer test times
- Boots up rapidly from power-on to test start
- Dual-port operation runs two tests simultaneously, including 10 G/high-speed tests

Test every interface in your network!

External BITS clock input

High-speed electrical
T3, STS1, E3, E4, STM-1e

Dual RJ45 ports
10/100/1000 Ethernet

Low-speed electrical
T1, PRI, E1

Dual SFP+ ports; 1 and 10 G Ethernet LAN/WAN; 10GE eCPRI

STM-1-64, OC3-192; OTN OTU 1, 2 OTU1e, 2e

Fiber Channel: 1/2/4/8/10/16 G FC
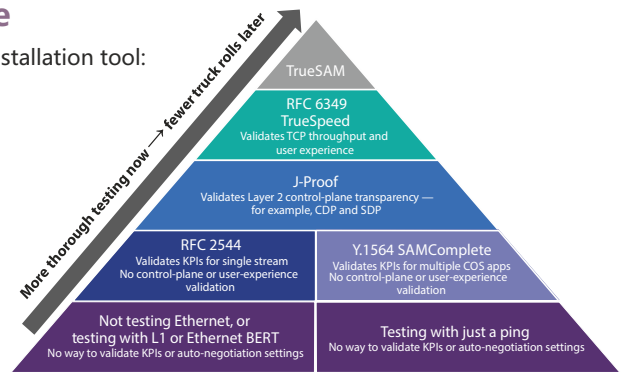
CPRI/OBSAI 614 Mbps – 12.2 Gbps

Compatible with VIAVI FiberScope

TrueSAM Saves Valuable Service Activation Time

Test better and quicker with automated tests combined into one ultimate installation tool:

- J-QuickCheck — a fast, automated test (RFC 2544, Y.1564) for validating end-to-end and auto-negotiation configuration

- Enhanced RFC 2544 — an automated turn-up test for validating key performance indicators (KPIs)/concurrently measuring SLAs such as throughput, frame delay, delay variation, frame loss, and committed burst size (CBS) — optional

- Y.1564 SAMComplete — an automated service verification test that speeds the installation of multiple classes of services (COS)

- TrueSpeed per RFC 6349 — an automated, standards-based test that can save up to 25% of operating expenses (OpEx) and reveals the reason for slow file downloads, eliminating finger-pointing

- Interoperable with TrueSpeed VNF and QT-600 to speed testing

More thorough testing now → fewer truck rolls later

TrueSAM

RFC 6349 TrueSpeed
Validates TCP throughput and user experience

J-Proof
Validates Layer 2 control-plane transparency — for example, CDP and SDP

RFC 2544
Validates KPIs for single stream
No control-plane or user-experience validation

Y.1564 SAMComplete
Validates KPIs for multiple COS apps
No control-plane or user-experience validation

Not testing Ethernet, or testing with L1 or Ethernet BERT
No way to validate KPIs or auto-negotiation settings

Testing with just a ping
No way to validate KPIs or auto-negotiation settings

Enhanced RFC 2544 with J-QuickCheck
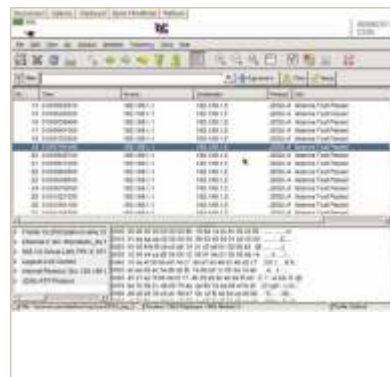
SAMComplete per ITU-T Y.1564

TrueSpeed per RFC 6349

Reduce Mean Time to Repair for Network Problems

Reduce CapEx/OpEx while immediately identifying problems with automated tests — without the need for a field expert or a separate analyzer.

- Network discovery automatically identifies equipment present on the network

- J-Profiler discovers live traffic streams for real-time troubleshooting with in-service top-talkers analysis

- Integrated capture/decode offers 10 G line-rate packet capture and analysis in a handheld

- J-Mentor provides expert troubleshooting guidance and interprets packet decodes

J-Mentor provides expert troubleshooting guidance

Enables Network Evolution — Today and Tomorrow

The 5800 meets leading-edge, carrier-grade Ethernet requirements:

- Ensures reliability with link and service OAM (IEEE 802.3ah, 802.1ag, and ITU-T Y.1731)
- Validates network scalability with VLAN, Q-in-Q, MAC-in-MAC Ethernet-over-Ethernet, MPLS, and VPLS tunnelling technologies.
- Support for ODU multiplexing including ODU1, ODU0, and ODUflex
- Test emerging 5G technology with eCPRI specific testing including One-Way-Delay (OWD)
- Full-featured VoIP and IP video turn-up and troubleshooting tests
- Supports packet transport network (PTN) evolution with MPLS-TP technology
- Ethernet Service Disruption with multi-tier triggers
- Run Bi-Directional Forwarding Detection (BFD) against switch and router partners while generating traffic to measure KPIs
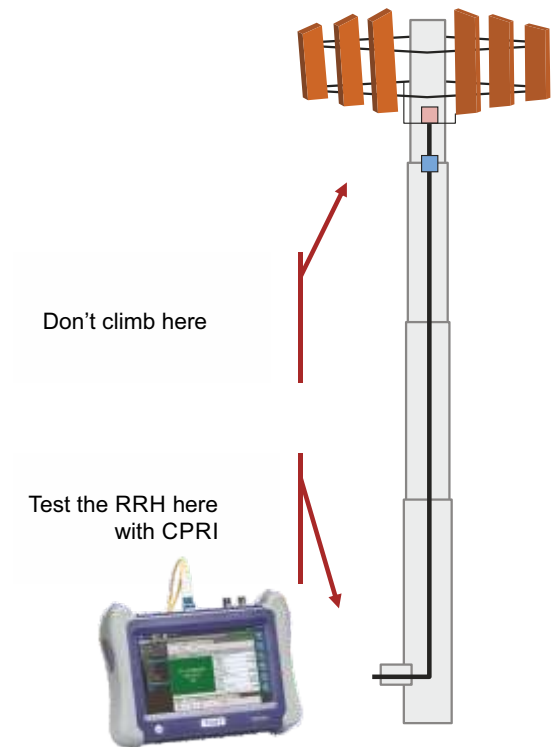
Empower Cell-Site Technicians - Fiber testing to CPRI and eCPRI

T-BERD/MTS-5800 tools let cell-site technicians efficiently install and maintain backhaul and fronthaul networks. They can ensure BBU and RRH connectivity with CPRI and OBSAI tests:

- Validate C-RAN connectivity across CWDM networks
- Test RRH health from the bottom of the tower or from a C-RAN location by emulating a BBU
- Identity PIM and interference issues from an optical test access point including quad spectrum with enhanced markers.(RFoCPRI)
- Support 2-Tone PIM generation enabling PIM detection without climbing a tower
- Bit Error Rate Test eCPRI fronthaul circuits
- Validate RJ-45 Ethernet wiring is properly crimped down and wire mapped including end-to-end shield ground connectivity
- CPRI Check automates setting Antenna Tilt, detecting PIM and reading VSWR

And, they can verify network synchronization:

- Emulate a 1588v2 master clock/slave recovery for proper point-to-point (PTP) message propagation and packet-delay variation (PDV) verification
- Verify SyncE frequency synchronization accuracy and Ethernet synchronization message channel (ESMC) message propagation
- Measure wander on SyncE, 1PPS, T1, E1, and 2 and 10 MHz signals
- Track satellite movements to optimize GPS antenna placement
- Test Floor Packet Percentile per ITU PTP Frequency recommendations

Don't climb here

Test the RRH here with CPRI

When equipped with an OTDR module, the T-BERD/MTS-5800 is the perfect solution for mobile network testing, providing easy fiber link characterization and troubleshooting.

Activate services more quickly and accurately

Reduce mean time to repair (MTTR) on network problems

Test the widest range of traditional and emerging telecom interfaces

Common Application Base
Same user interface + same results + same methods and procedures

Part of the Leading T-BERD/MTS Test Portfolio

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 lets you manage inventory, test results, and performance data anywhere with browser-based ease while it also improves technician and instrument efficiency. StrataSync manages and tracks test instruments, collects and analyzes results from the entire network, and it informs and trains the workforce.

www.savitritelecom.com