T-BERD®/MTS-5800

Handheld Network Test Family of Products

Benefits

- All-in-one handheld tool reduces complexity of multitechnology testing

- Optimized for easy field use and addresses emerging network technologies

- Guarantees maximum efficiency and success in evolving Carrier Ethernet and Mobile Backhaul networks

- Ensures service life-cycle management with service activation and troubleshooting capabilities integrated into one instrument

- Speeds service activation and troubleshooting with TrueSAM™, the ultimate installation tool, and J-Complete test tools that both follow best practices and provide repeatable methods and procedures with easy-to-understand results

Applications

- Tests and troubleshoots converged Ethernet/IP networks at 10 Mbps to 10 G interfaces

  – Tests Layer 1-3 Ethernet/IP SLAs with an automated, enhanced RFC 2544/SAMComplete per ITU-T Y.1564

  – Integrated approach to burst testing including CBS verifies buffer settings and TrueSpeed per RFC 6349 for performance testing so you can experience your network the way your customers do

  – Robust troubleshooting capabilities including network discovery, top talker analysis, deep packet capture, packet analysis, and expert guidance

- Tests TDM/PDH to SONET/SDH at OC-3/STM-1 to OC-192/STM-64, including service disruption measurements and path overhead (POH) capture with triggers

- Tests dual FC (1, 2, 4 G) for service activation and maintenance of SANs and low-latency circuits

- Verifies network synchronization

  – Emulates a 1588v2 master clock/slave recovery for proper point-to-point (PTP) message propagation and verification of packet-delay variation (PDV)

  – Verifies SyncE frequency synchronization accuracy and Ethernet synchronization message channel (ESMC) message propagation

- Supports SFP and XFP pluggable optics, including 50 GHz C-band tunable XFPs

- Six T-BERD/MTS-5800 configurations:

  – Single- and dual-port Ethernet versions

  – With or without TDM/PDH interfaces

  – Fully loaded TDM/PDH to 10 G Ethernet, SONET, and SDH

The T-BERD/MTS-5800 Handheld Network Tester addresses the challenges of Carrier Ethernet evolution. It supports both 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 supports testing throughout the entire service life cycle, including service activation, troubleshooting, and maintenance. Integrated J-Complete functionality, such as capture/decode and automated J-Mentor, guides field technicians through troubleshooting without carrying a separate analyzer instrument.

The T-BERD/MTS-5800 ensures successful mobile backhaul transitions by validating both Ethernet backhaul synchronization (1588v2 and SyncE) and front haul (CPRI/OBSAI) BER and delay to guarantee successful mobile handoff between cell sites, thereby avoiding service degradation.
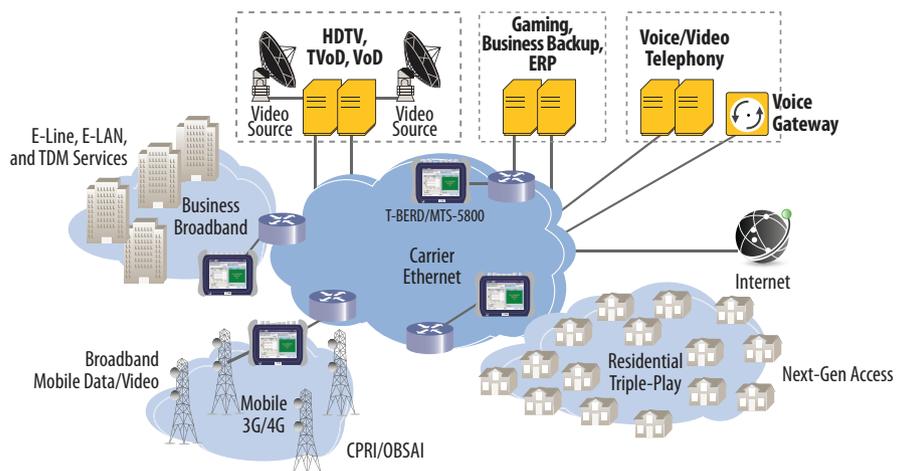

Figure 1. Carrier Ethernet Network

JDSU

All-in-One Handheld Tool

- Industry's smallest 10 G handheld instrument that supports Ethernet, SONET/SDH, PDH, and CPRI/OBSAI testing
  - All test interfaces readily available
  - Large screen (7 inches) to display test information
  - Configure to best meet your needs

- State-of-the-art platform supports:
  - Bluetooth to easily offload results
  - WiFi for test set connectivity
  - Store 1000s of reports
  - FiberScope connectivity

External BITS
Clock Input

XFP Port
OC192, STM64,
10 GE LAN/WAN

Dual SFP Ports
OC3/12/48, GE, 100 Mbps,
STM1/4/16,
3.1 G Optical

Audio Jack

Dual RJ-45 Ports
10/100/1000 Ethernet

Low-Speed Electrical
DS0, T1, PRI, E1

High-Speed Electrical
T3, STS1, E3, E4, STM-1e
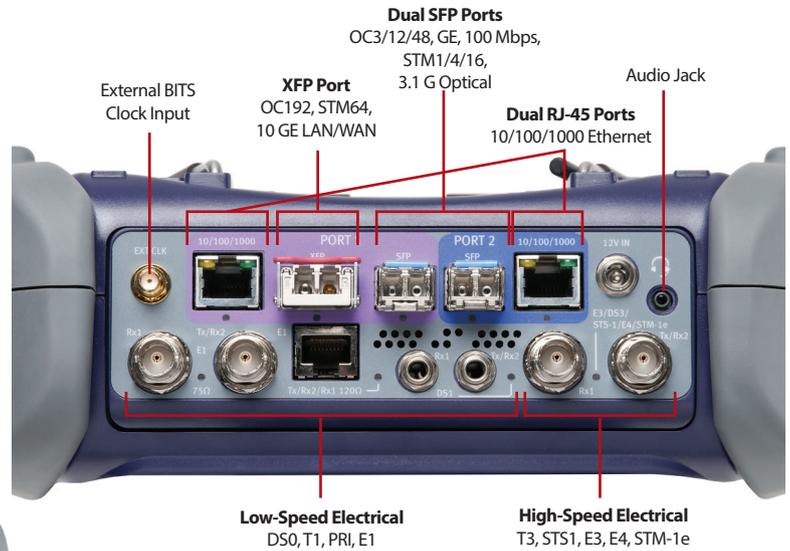
Optimized for Easy Field Use

- Fixed test interfaces eliminate loose pluggable modules
- LEDs indicate plug-ins for tests
- Streamlined user interface with simple pass/fail, green/red results
- 4 hours of battery test time
- Rapid boot-up from power-on to test start
- Dual-port operation to run two tests simultaneously
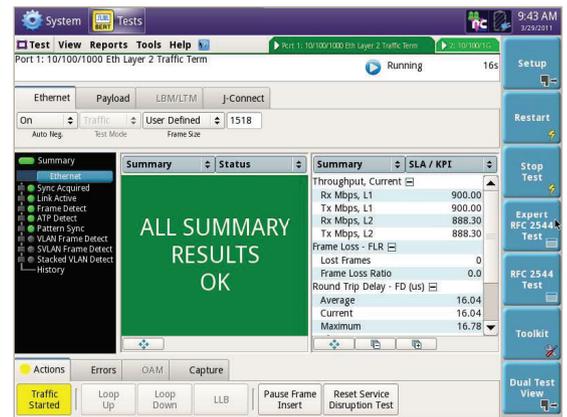
All key results in one view
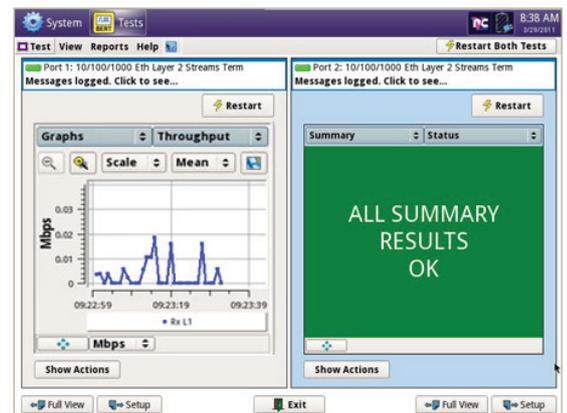
Two tests: One streamlined view

Enables Network Evolution – Today and Tomorrow

- Guarantees 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, MPLS/VPLS tunnelling technologies
  - Certifies **network synchronization** with Synchronous Ethernet and IEEE 1588v2

- *PTN Ready:* Supports **Packet Transport Network (PTN)** evolution with MPLS-TP technology

- Architected to meet future technology needs
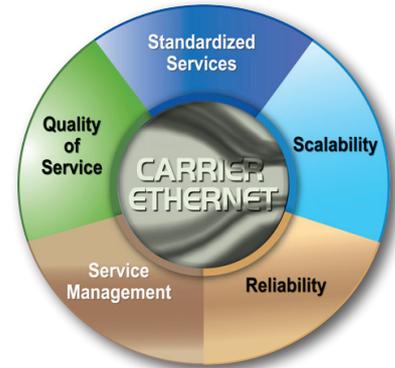
Carrier Ethernet graphic courtesy of the Metro Ethernet Forum (MEF). JDSU is a member of the MEF.

Save Valuable Time with Service Activation Tests

Test better and quicker with automated tests

- J-QuickCheck — Quick pre-automated test (RFC 2544, Y.1564) validates end-to-end and auto-negotiation configuration
- Enhanced RFC 2544 — Automated turn-up test validates key performance indicators (KPIs)/measures SLAs concurrently— throughput, frame delay, and delay variation, frame loss and optionally committed burst size (CBS)
- Y.1564 SAMComplete — Automated service verification test speeds installation of multiple classes of services (COS)
- TrueSpeed per RFC 6349 — Automated, standards-based test saves 20 percent or more in operating expenses (OpEx) and eliminates finger-pointing for slow file downloads
- TrueSAM — Combines these tests into one ultimate installation tool

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 – CDP, SDP, etc.
- **RFC 2544** — Validates KPI for single stream / No control-plane or user-experience validation
- **Y.1564 SAMComplete** — Validates KPI for multiple COS applications / No control-plane or user experience-validation
- **Not testing Ethernet, or testing with L1 or Ethernet BERT** — No way to validate KPI or auto-negotiation settings
- **Testing with just a ping** — No way to validate KPI or auto-negotiation settings

Enhanced RFC 2544 with J-QuickCheck
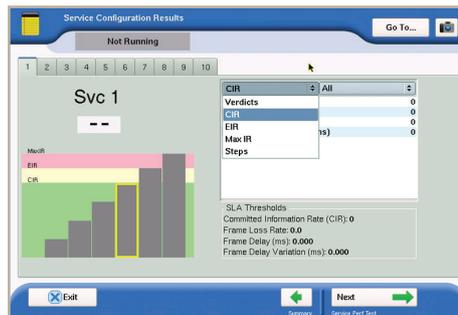
SAMComplete per ITU-T Y.1564
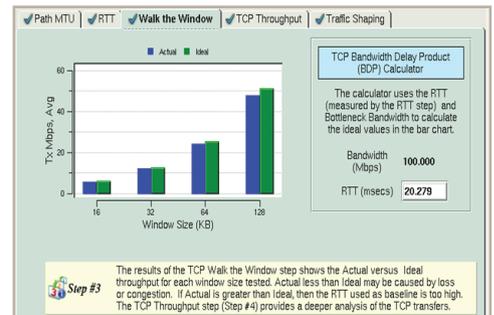
TrueSpeed per RFC 6349

Reduce Mean Time to Repair for Network Problems

Automated tests eliminate the need for a separate analyzer by immediately identifying problems

- Network Discovery — Automatically identify equipment present on the network
- J-Profiler — Discovers live traffic streams for real-time troubleshooting that provides in-service top-talkers analysis
- Integrated Capture/Decode — Provides 10 G line-rate packet capture and analysis in a handheld test tool
- J-Mentor — Provides expert troubleshooting guidance interpreting packet decodes
- Reduces CapEx/OpEx — Eliminates the need for a separate analyzer, immediately identifies problems without the need for a field expert
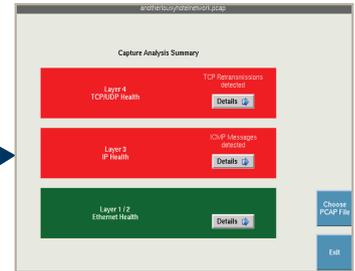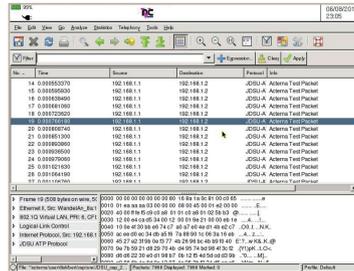
J-Mentor — Provides expert troubleshooting guidance

Part of the Leading T-BERD/MTS Test Portfolio

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

StrataSync

Empower Your Assets

StrataSync is a hosted, cloud-enabled solution that provides asset, configuration, and test-data management of JDSU instruments and ensures all instruments have the latest software and options installed. StrataSync manages inventory, test results, and performance data anywhere with browser-based ease and improves technician and instrument efficiency. StrataSync manages and tracks test instruments, collects and analyzes results from the entire network, and informs and trains the workforce.

JDSU

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