

Quick Card

T-BERD[®]/MTS-5800 Network Tester

Ethernet RFC 6349 TrueSpeed Test - Local Unit

This document outlines how to configure and run an RFC 6349 TrueSpeed test on a local (near-end) T-BERD/MTS 5800 instrument. The remote (far-end) T-BERD/MTS 5800 unit setup for this test is covered in a separate Quick Card.

Equipment Requirements:

- T-BERD/MTS-5800 equipped with the following:
 - BERT software release V26.1 or greater
 - Test options:
 - C510M1GE for 10 Megabit to 1 Gigabit Ethernet
 - C510GELAN for 10 Gigabit Ethernet
 - C5LSLAYER4 for TrueSpeed testing at 1G
 - C510GLAYER4 for TrueSpeed testing at 10G
 - SFP or SFP+ optical transceiver to match the line under test
- Jumper cables to match the T-BERD/MTS optics and the line under test
- Fiber optic inspection microscope (VIAVI P5000i or FiberChek Probe)
- Fiber optic cleaning supplies



Figure 1: Equipment Requirements

The following information is required to complete the test:

- Physical Interface (10/100/1000BASE-T, 1000BASE-SX, 1000BASE-LX, 10GBASE-LR, etc.)
- VLAN ID, if VLAN tagging is used.
- Source IP Address, Subnet mask, and Default Gateway for the local T-BERD/MTS
- IP Address for the remote T-BERD/MTS
- TOS Type and TOS/DSCP values, if IP Class of Service is used
- Committed Information Rate (CIR) of the end to end connection

Fiber Inspection Guidelines:

Inspect and clean (if necessary) both sides of every fiber optic connection being used (bulkhead connectors, patch cords, and SFP port) prior to reconnection for each test. Using the P5000i or FiberChek Probe:

- Focus fiber on the screen. If dirty, clean the connector.
- If it appears clean, run inspection test.
- If it fails, clean fiber and re-run inspection test. Repeat until it passes.
- To inspect SFP ports with the **P5000i**, insert the probe tip into the SFP port, move the focus wheel all the way to one end, and slowly move the focus wheel to the other end.
- To inspect SFP ports with the **FiberChek Probe**, manually focus with middle toggle switch or pull the trigger to auto-focus.
- If a fiber stub (a darker circle on a lighter background as shown in Figure 2) is detected, follow standard inspection and cleaning procedures. If you are unable to focus on a fiber end face, do not clean the port. The SFP uses a lens that cannot be cleaned.



Figure 2: Image of Clean Fiber

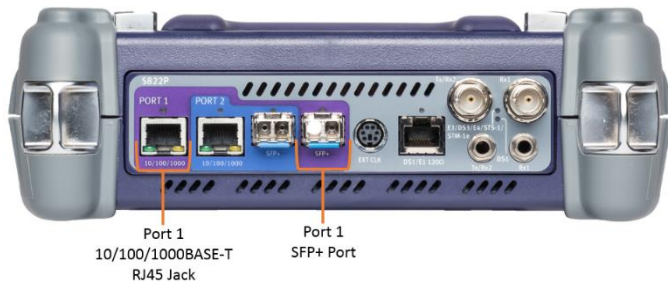


Figure 3: T-BERD/MTS 5800v2 Dual Port mainframe

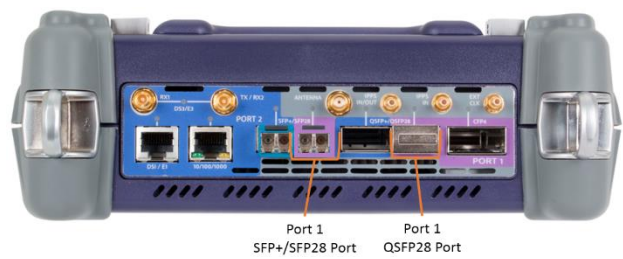


Figure 4: T-BERD/MTS 5800-100G mainframe

Connect to Port Under Test:

1. For copper 10/100/1000BASE-T interface testing with the T-BERD/MTS 5800v2, connect the Port 1 10/100/1000 RJ-45 jack to the port under test using CAT 5E or better cable.
2. For copper 10/100/1000BASE-T interface testing with the T-BERD/MTS 5800-100G, insert a copper SFP into the Port 1 SFP+/SFP28 slot and connect to the port under test using CAT 5E or better cable.
3. For optical interfaces:
 - Inspect and, if necessary, clean all SFPs, fibers, and bulkheads, as described on page 1.
 - Insert desired SFP or SFP+ into the Port 1 slot on the top of T-BERD/MTS.
 - Connect the SFP or SFP+ to the port under test using a Single Mode or Multimode jumper cable compatible with the interface under test.

Launch Test:

1. Press the Power button  to turn on the test set.

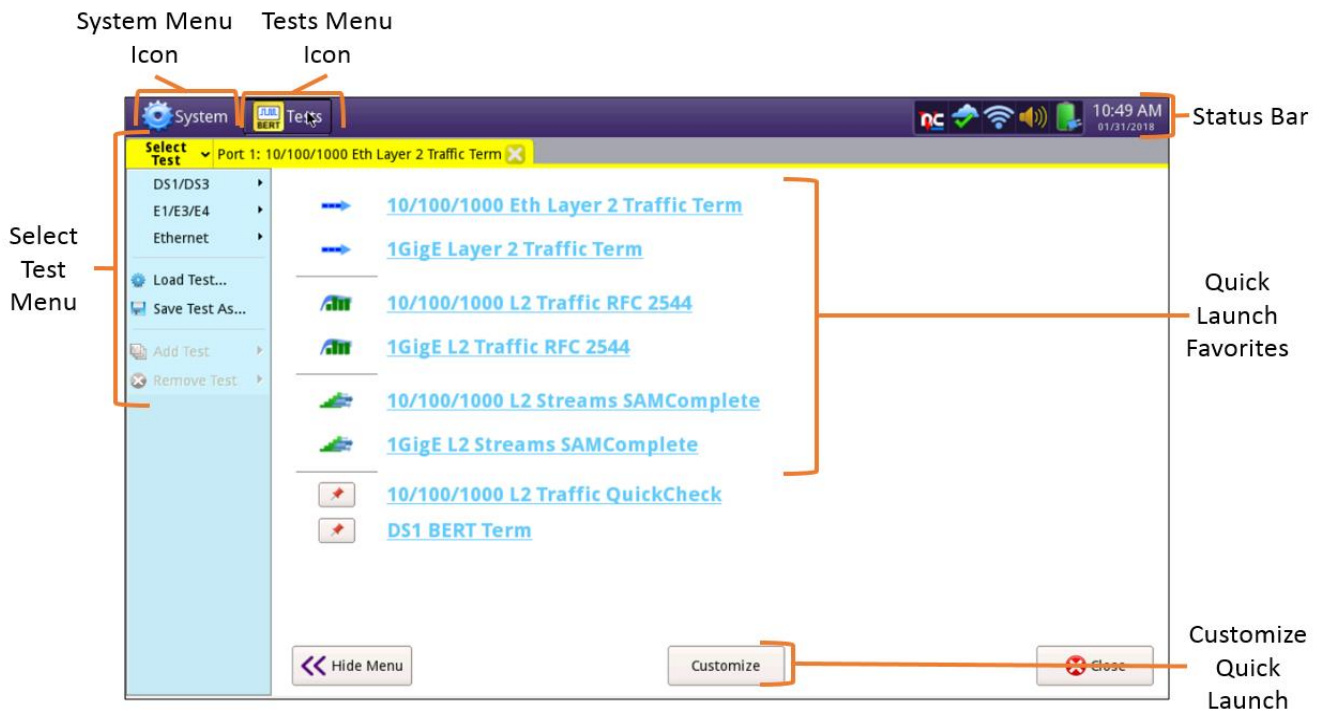
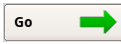
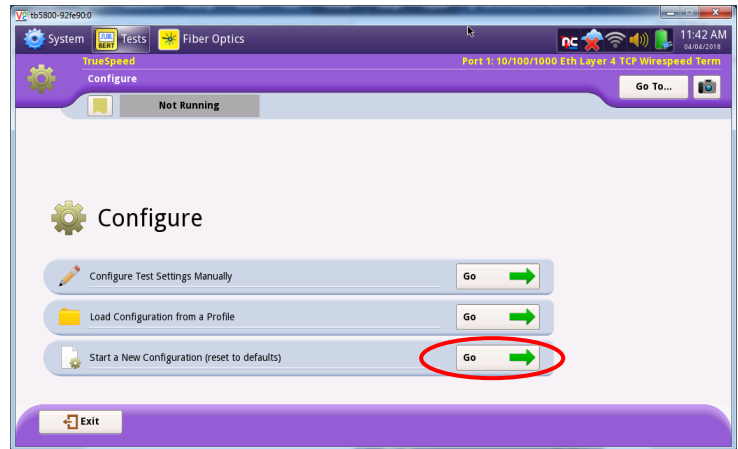


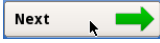
Figure 5: Startup screen

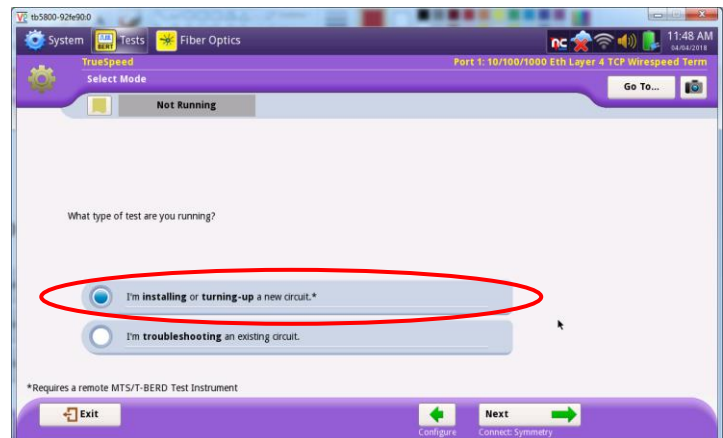
- Using the **Select Test** menu, **Quick Launch** menu, or **Job Manager**, launch an **Ethernet, RFC 6349 TrueSpeed, Terminate** test on port 1 for the desired physical interface. For example:
Ethernet ▶ 10/100/1000 ▶ RFC 6349 TrueSpeed ▶ P1 Terminate

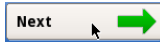
- Tap the  button next to **“Start a New Configuration (reset to defaults).”**

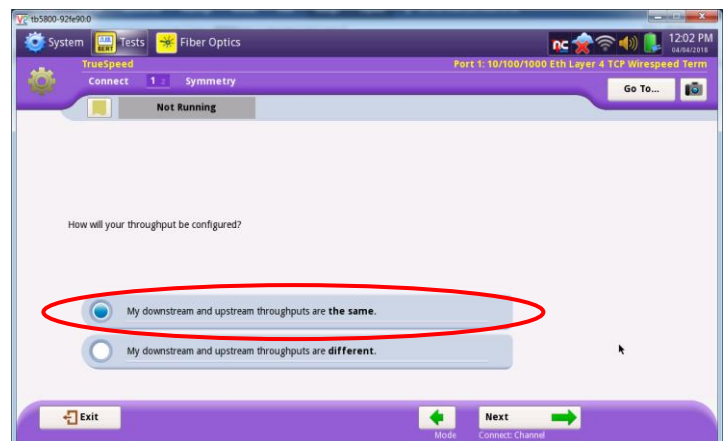



Configure Test:

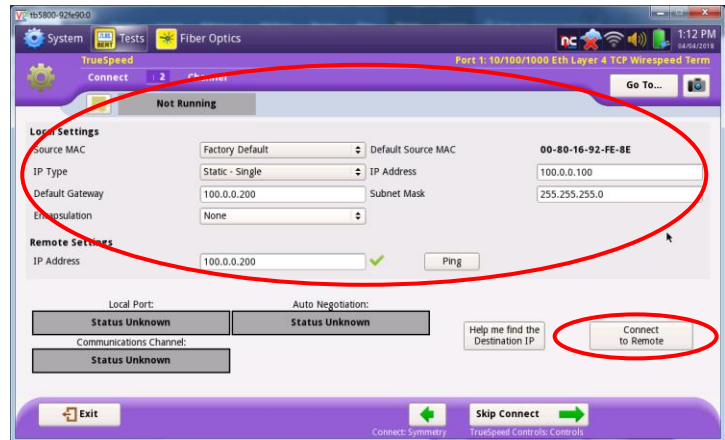
- Select **I am installing or turning-up a new circuit** and tap the  button to advance to the **Symmetry** screen.


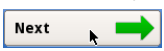


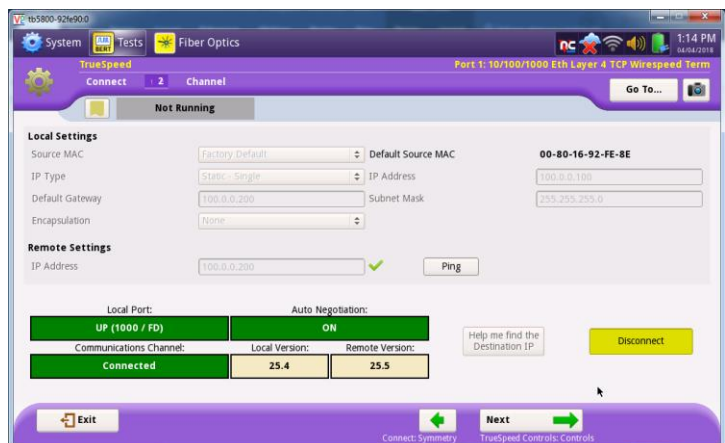
- Make the appropriate symmetry selection and tap the  button to advance to the **Connect to Remote Instrument** screen.




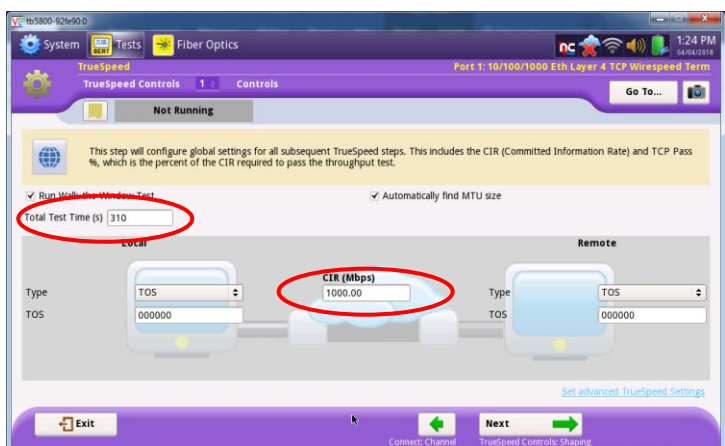
3. Fill in the local T-BERD/MTS IP address, Subnet Mask, Default Gateway as well as the IP address of the remote T-BERD/MTS unit. If VLAN tagging is used, set the Encapsulation option to VLAN and provide the appropriate VLAN ID. You can then tap the  button to verify connectivity to the remote T-BERD/MTS.


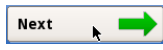


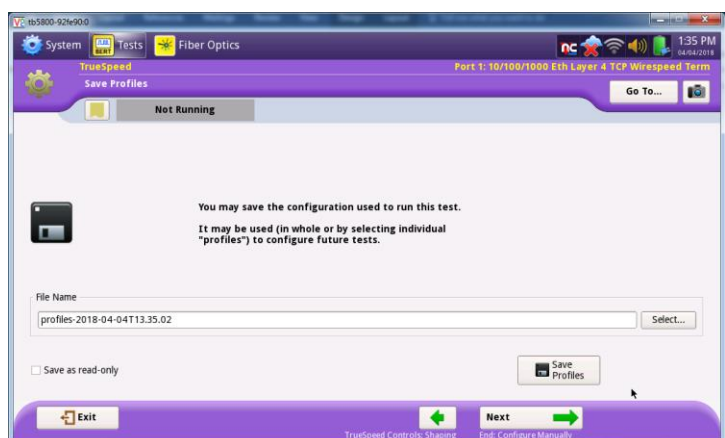
4. Tap the  button to connect to the remote T-BERD/MTS unit. Once connected tap the  button to advance to the TrueSpeed Test Controls screen.



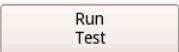



5. Set the Total Test Time to desired interval in seconds and set the CIR to the circuit Committed Information Rate. If IP Class of Service is used on the circuit select the appropriate Type (TOS or DSCP) and provide the desired values for local and/or remote T-BERD/MTS units. Once done tap the  button twice to advance to Save Profiles screen.



6. If desired, provide a name for the created test configuration and tap  button to save it for later re-use. Tap the  button twice to advance to Run TrueSpeed Tests screen.



Run Tests:

1. Tap the  button to execute the RFC 6349/TrueSpeed tests. Wait for all tests to complete as indicated by the progress bar at the top of the screen.
2. Verify that all **RFC 6349/Truespeed** tests passed as indicated by the green check marks. Tap the  button three times to advance to the **Report** screen.
3. Provide a desired report file name and tap the  button to create the test report.
4. Tap the  button three times to close the report and exit the **RFC 6349/Truespeed** test.

