

Quick Card

T-BERD[®]/MTS 5800 Network Tester

Fiber Channel Layer 2 Traffic

This quick card outlines how to configure and run a Fiber Channel Layer 2 Traffic Test with a recommended test suite of **Throughput, Latency, Frame Loss, Buffer Credit** and **Buffer Credit Throughput**.

Equipment Requirements:

- T-BERD/MTS 5800 equipped with the following:
 - BERT software release V26.0 or greater
 - Test options:
 - C51G2G4GFC for 1G, 2G or 4G Fiber Channel
 - C58GFC for 8G Fiber Channel
 - C510GFC for 10G Fiber Channel
 - C516GFC for 16G Fiber Channel
 - C532GFC for 32G Fiber Channel
 - SFP, SFP+, or SFP28 optical transceiver to match the line under test
- Jumper Cables to match the optical transceiver 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:

- Rate (1G, 2G, 4G, 8G, 10G, 16G, or 32G)
- Source and Destination IDs
- Maximum Bandwidth (Layer 1)
- If you are running the Buffer Credit Test:
 - Maximum Buffer Credit Size
 - Number of Steps

Fiber Inspection Guidelines:

Inspect and clean (if necessary) both sides of every fiber optic connection being used (bulkhead connectors, patch cords, and SFP ports) prior to reconnection for each test. Using the VIAVI 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 contains a lens and cannot be cleaned.

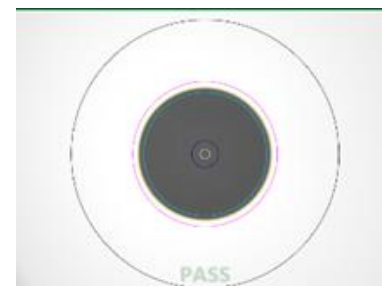


Figure 2: Image of Clean Fiber

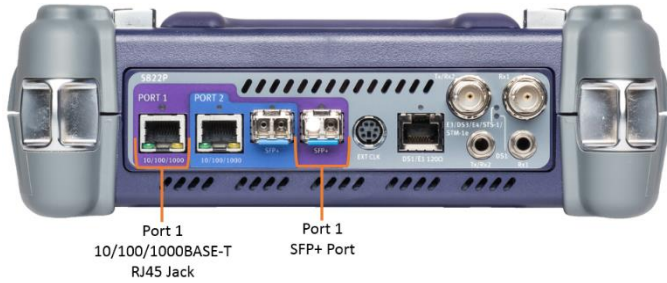


Figure 3: T-BERD/MTS 5800v2 Dual Port mainframe

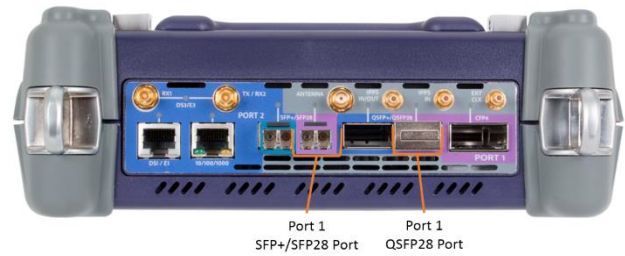


Figure 4: T-BERD/MTS 5800-100G mainframe

Connect to Line Under Test:

For optical interfaces:

- Inspect and, if necessary, clean all SFPs, fibers, and bulkheads, as described on page 1.
- Insert desired SFP, SFP+ or SFP28 into the Port 1 (or Port 2) slot on the top of the T-BERD/MTS.
- Connect the SFP, SFP+ or SFP28 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.

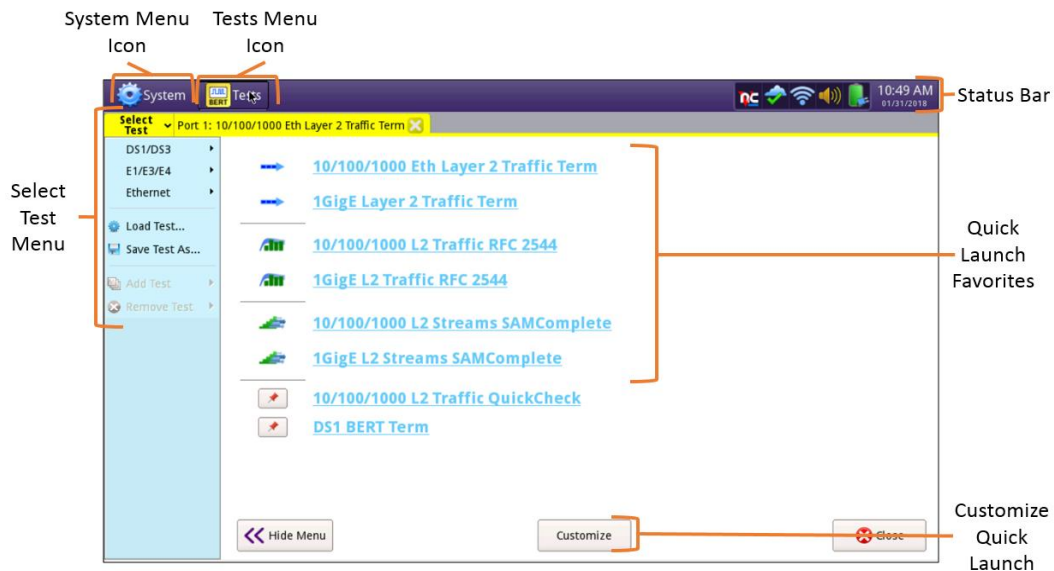



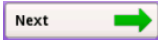

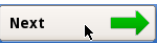
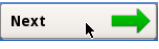
Figure 5: Startup screen

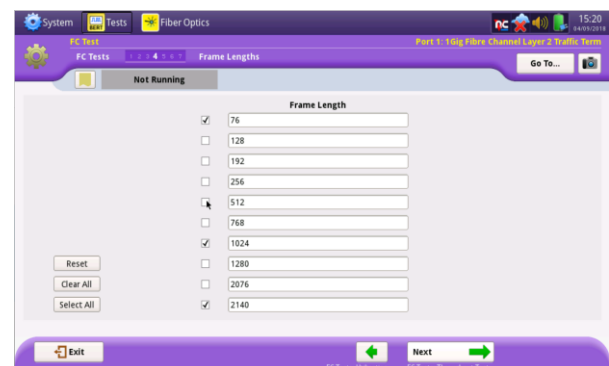
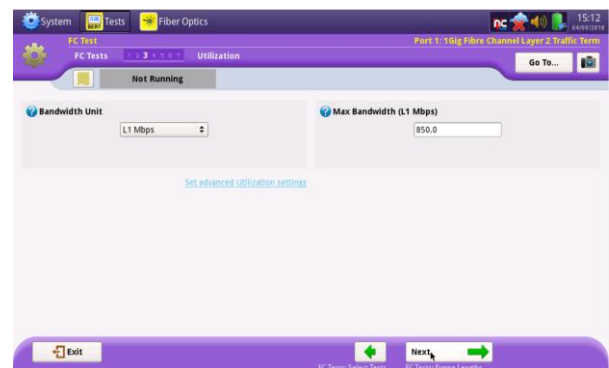
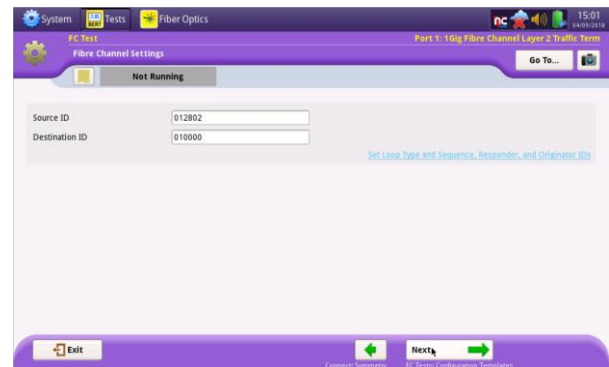
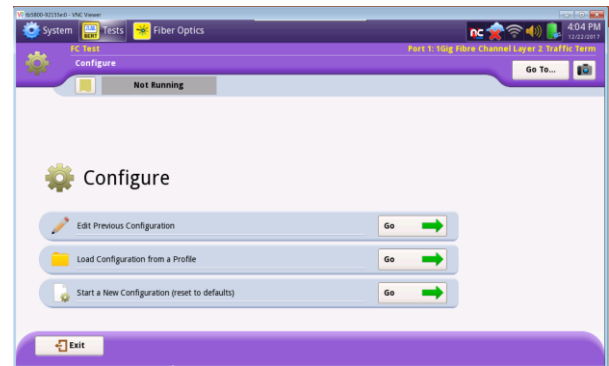
2. Using the **Select Test** menu, **Quick Launch** menu, or **Job Manager**, launch a **Fiber Channel L2 Traffic, Terminate** test for the desire physical interface on port 1. For example:
Fiber Channel ► 8G ► L2 Traffic ► P1 Terminate



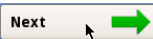
3. Tap the **Enhanced FC Test** soft key .

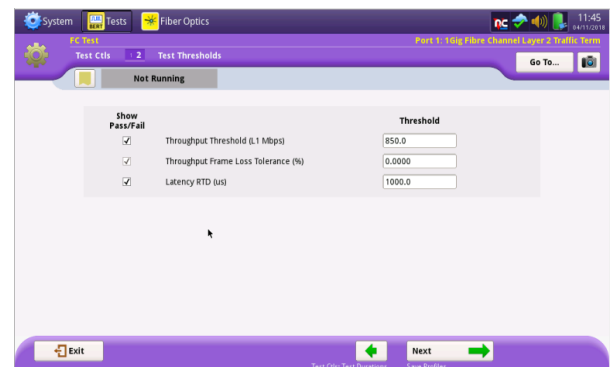
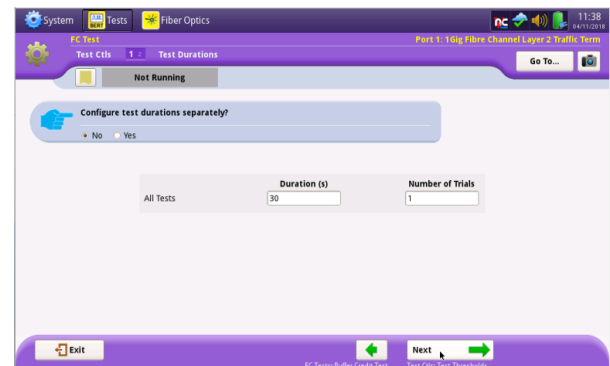
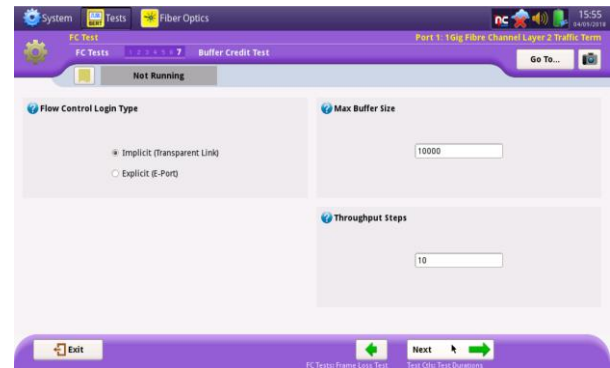


Configure Test:



1. Tap the **Go** button  for **Start a New Configuration (Reset to defaults)**.
2. Tap the **Next** button  to advance to the **Fibre Channel Settings** screen.
3. Enter your **Source ID** and **Destination ID**.
4. Tap the **Next** button  3 times to display the **FC Test: Utilization** screen.
5. Enter **Max Bandwidth (L1 Mbps)** required:
 - 1GFC: up to 850 Mbps
 - 2GFC: up to 1.7 Gbps
 - 4GFC: up to 3.4 Gbps
 - 8GFC: up to 6.8 Gbps
 - 10GFC: up to 10.2 Gbps
 - 16GFC: up to 13.6 Gbps
 - 32GFC: up to 27.2 Gbps
6. Tap the **Next** button  to display the **FC Test: Frame Lengths** screen.
7. Choose default or custom Frame Sizes.
Three (3) Frame Sizes (76, 1024, and 2140) are recommended to cover the range and keep the test time short.
8. Tap the **Next** button  3 times to display **FC Test: Buffer Credit Test** screen.

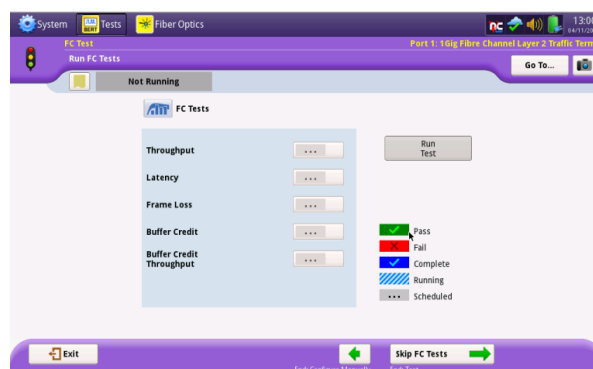




9. Enter the **Maximum Buffer Credit Size** (between 1 - 65535). The test will start with this number, reducing the length of the test.
10. Enter the number of **Steps** to test for Buffer Credit Throughput (between 2 and 10).
11. Tap the  button to display the **Test CTRLS: Test Duration** screen.
12. Enter a time **Duration** (5 – 2700 seconds) for each step of the test. 30 seconds is recommended.
13. Enter the **Number of Trials** for the test. 1 trial is recommended.
14. Tap the  button to display the **Test CTRLS: Test Thresholds** screen.
15. Check desired checkboxes and enter pass/fail criteria for the test. **Throughput** is typically set to the **Max Bandwidth** configured in Step 5 above. **Throughput Frame Loss Tolerance** is typically set to **0**.
16. Tap the  button 3 times to display the **Run FC Tests** screen.



Run Test:

1. Tap the Run Tests button  to start the test.
2. Verify that all tests pass or complete as indicated by a green or blue checkmark.
3. When the test is complete, tap the  button 3 times to display the **Reports** screen.



4. Tap . After viewing the report, tap the  button three times to close the report and exit the test.

