Quick Card

T-BERD®/MTS-5800 Network Tester
Ethernet 4x10GigE Layer 2 Traffic Loopback

This document outlines how to set the T-BERD/MTS 5800 up as a Layer 2 Traffic Loopback device across a Link Aggregation Group (LAG) with up to 4 10GigE links.

Equipment Requirements:
- T-BERD/MTS-5800 equipped with the following:
  - BERT software release V29.1.1 or greater
  - Ethernet test options:
    - C510GELAN for 10 Gigabit Ethernet
    - C54x10GELAN for 40 Gigabit Ethernet
  - 40GBASE-SR4 or 4x10GBASE-LR4 QSFP+ optical transceiver to match the line under test
- MPO to LC fanout Cable to match the optical transceiver and line under test (Single mode or Multimode Fiber)
- Fiber optic inspection microscope with MPO and LC tips (VIAVI Sidewinder)
- Fiber Optic Cleaning supplies

The following information is required to complete the test:
- Type of hash (Layer 2/MAC Address or Layer 3/IP Address)
- Number of 10GigE LAN physical ports in the LAG
  - (2 for 20Gig service, 3 for 30Gig service, 4 for 40Gig service)

Fiber Inspection Guidelines:
- All fiber end-faces must be clean and pass an inspection test prior to connection.
- Use the VIAVI Sidewinder microscope to inspect both sides of every connection being used (QSFP Port, Breakout Cable, bulkhead connectors, etc.)

Figure 1: Equipment Requirements

Figure 2: Inspect Before You Connect
Connect to Fibers Under Test (FUT):
1. For optical interfaces:
   • Insert QSFP+ Optical Transceiver into the Port 1 slot on the top of T-BERD.
   • Inspect and, if necessary, clean all SFPs, fibers, and bulkheads, as described on page 1.
   • Connect the QSFP+ to the MPO to LC fanout cable.
   • Connect the LC fanouts to the 10GigE LAN physical ports under test as follows, per your work order:
     ▪ Fanouts #1 and #2 for 20Gig service
     ▪ Fanouts #1, #2 and #3 for 30Gig service
     ▪ Fanouts #1, #2, #3 & #4 for 40Gig service

Launch and Configure Test:
1. Press the Power button to turn on the test set and view the startup screen.

2. Using the Select Test menu, Quick Launch menu, or Job Manager, launch an Ethernet Layer 2 Traffic test as follows:
   Ethernet►4x10GigE LAN►Layer 2 Traffic►P1 Terminate.

3. If the test is not in the default settings, tap the Tools icon, and select Reset Test to Defaults. Press OK to continue and wait for test to reconfigure.

4. Press the Setup Soft Key to display the Interface settings tab.
5. Select the **All Streams** settings tab.

6. Tap the **Configure Streams** button.

7. Enable the physical ports in the LAG by tapping the check boxes:
   - ✓ Select **Port 1/Stream 1** and **Port 2/Stream 2** for 20Gig service.
   - ✓ Select **Port 1/Stream 1**, **Port 2/Stream 2** and **Port 3/Stream 3** for 30Gig service.
   - ✓ Select **Port 1/Stream 1** through **Port 4/Stream 4** for 40Gig service.

8. Tap **OK** to return to **All Streams** settings.

9. Tap the **Results** Soft Key, , to view the Results screen.

10. Select the **Laser** tab in the **Action panel** at the bottom of the screen, and tap . The button will turn yellow and be relabeled .

11. Tap the **Restart** Soft Key , on the right side of the screen.

12. Confirm that **Signal Present**, **Sync Acquired** and **Link Active** LEDs are green for each port in the LAG. A green **Signal Present** LED indicates the T-BERD/MTS is receiving an optical signal from the port. Green **Sync Acquired** and **Link Active** LEDs indicate that the T-BERD/MTS has successfully connected to the port and the T-BERD/MTS is ready to be looped up.