

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 2: Inspect Before You Connect



Figure 1: Equipment Requirements



Connect to Fibers Under Test (FUT):

1. For optical interfaces:

Launch and Configure Test:

1. Press the Power button

- 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

to turn on the



Port1 QSFP+ Port w/ Optical Transceiver Figure 3: T-BERD 5800-100G and Fanout

🖲 System 🔛 Test	Fiber Optics	🔽 🗻 🌓 🔒	5:10 PM
Select ~ No Running Tes	X Timing Source	What's This?	10
DS1/DS3 + E1/E3/E4 + SONET + SDH + Etherenet + CPE1 + CPE1 + CPE1 + CPE1 + CPE1 + CPE3 + CDMSA	GigE L2 Traffic QuickCheck GE L2 Traffic RFC 2544 GE L2 Traffic RFC 2544 GigE option GigE option GigE VNN GE BERT GigE VNN GE MPLS Solid Constant Const Constant Constant Constant Constant Constant		
Add Test Remove Test Load Test Save Test As	100Gig R.F.FC . Source 10 Gig E LAN L2 Traffic QuickCheck 10 Gig E LAN L2 Traffic RFC 2544 Wide Menu Customize		

Figure 4:Launch Test



the **Tools icon** , and select

Layer 2 Traffic test as follows: Ethernet ► 4x10GigE LAN ►

Layer 2 Traffic ► P1 Terminate.

test set and view the startup screen.

2. Using the **Select Test** menu, **Quick Launch** menu, or **Job Manager**, launch an Ethernet

Reset Test to Defaults. Press

continue and wait for test to reconfigure.

3. If the test is not in the default settings, tap

4. Press the **Setup** Soft Key, **Setup** 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

Laser Off

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.



Figure 6: All Streams settings

System 🔛	est 🧩 Fiber Optics	🔽 🛹 🌒 💦 5:50 P
Select v Port 1: 4x10	OGigE Layer 2 LAN Term 🗙 🕂 Timing Source	What's This? 🔯 🔶
Interface	MAC Address Setup	Results
	Source MAC Mode Single 🗢	
1	Load Distribution	F8-58
2	Stream	Type Load (%)
3	✓ Port 1 / Stream 1	Constant 25
4	✓ Port 2 / Stream 2	Constant 25
Capture	✓ Port 3 / Stream 3	Constant 25
Filters	Port 4 / Stream 4	Constant 25
Timed Test		
	falut. Class. Auto	
	All All Distribute	
Reset Test to Defaults		

Figure 7: Configure Streams



Figure 8: Results

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