

Quick Card

T-BERD®/MTS-5800 Network Tester

Ethernet Layer 3 Multicast Traffic Generation

This document outlines how to use the T-BERD 5800 to generate IPv4 Multicast Traffic. A second T-BERD/MTS 5800 or compatible device should be used at the far-end of the line under test to analyze the multicast traffic and measure key performance indicators (KPIs). Multicast traffic analysis and IGMP group membership registration is covered in a separate Quick Card.

Equipment Requirements:

- T-BERD/MTS-5800 equipped with the following:
 - BERT software release V27.2 or greater
 - C510M1GE Gigabit Ethernet test option
 - SFP, QSFP, or CFP4 optical transceiver to match the line under test
- Patch 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-LX, 10GBASE-LR, 100GBASE-LR4, etc.)
- Auto Negotiation settings of the port under test
- VLAN ID, if VLAN tagging is used
- IP Address Parameters (DHCP or Static, Source IP, Default Gateway, Subnet Mask)
- Destination Multicast Group IP Address for test traffic.
- Packet size and Transmit rate for test traffic.

Fiber Inspection Guidelines:

- All fiber end-faces must be clean and pass an inspection test prior to connection.
- Use the VIAVI P5000i, FiberChek Probe, or Sidewinder microscope to inspect both sides of every connection being used (SFP Port, bulkhead connectors, patch cords, etc.)

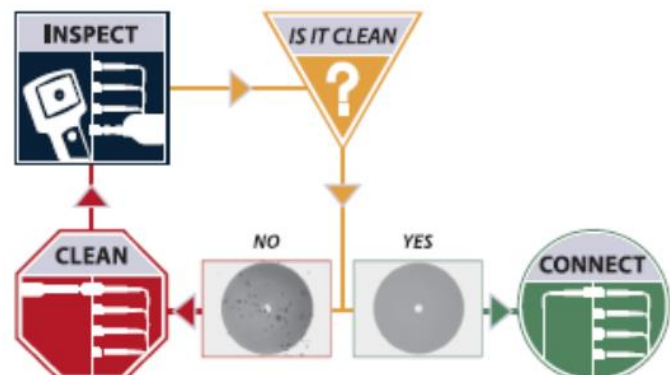


Figure 2: Inspect Before You Connect

Connect to Fiber Under Test (FUT):

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:
 - Insert SFP compatible with your physical interface into the Port 1 slot on the top of T-BERD.
 - Inspect and, if necessary, clean all fibers and bulkheads, as described on page 1.
 - Connect the SFP to the port under test using a Single Mode or Multimode jumper cable compatible with the interface under test.

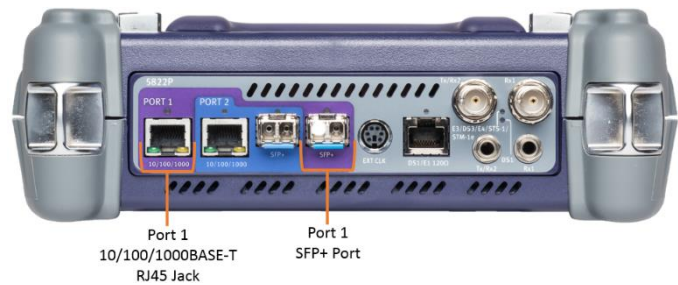


Figure 3: T-BERD 5800v2 Dual Port mainframe

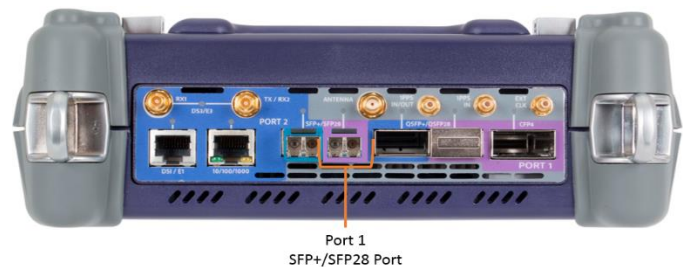


Figure 4: T-BERD 5800-100G mainframe

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 3 Traffic, IPv4, Terminate** test on port 1 for the desire physical interface. For example: **Ethernet►10/100/1000►Layer 3 Traffic►IPv4►P1 Terminate**.

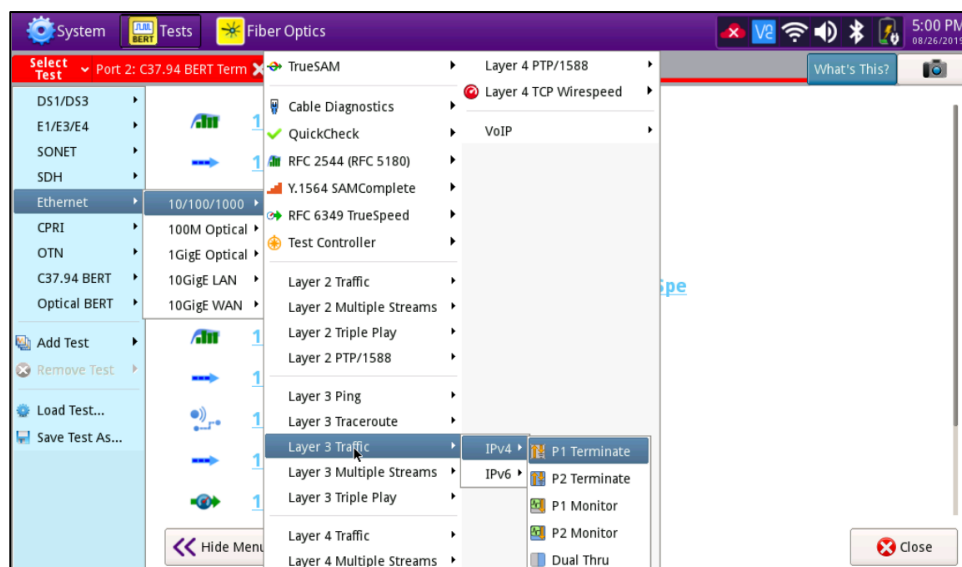


Figure 5: Startup Screen

3. If the test is not in the default settings, tap the **Tools icon**  and select . Tap  and wait for test to reconfigure.
4. Tap the **Setup** Soft Key  to display the **Interface** settings tab.
5. If you are testing a **10/100/1000 Electrical** or **1GigE Optical** tests with auto negotiation disabled, select the **Physical Layer** tab and configure settings to match the Ethernet port under test.
6. If the network under test uses VLAN tagging, select the **Ethernet** settings tab, set **Encapsulation** to **VLAN**, tap **[VLAN]** and enter your **VLAN ID**.
7. Select the **IP** settings tab.
8. Select the desired packet size in the **Packet Length (bytes)** setting.
9. Select the **Source/Destination Addresses** field.
 - a. Enter the **Source IP**, **Default Gateway** and **Subnet Mask** values.
 - b. Set **Destination IP** to the desired Multicast Group IP address to transmit traffic to; for example, 224.0.0.120.

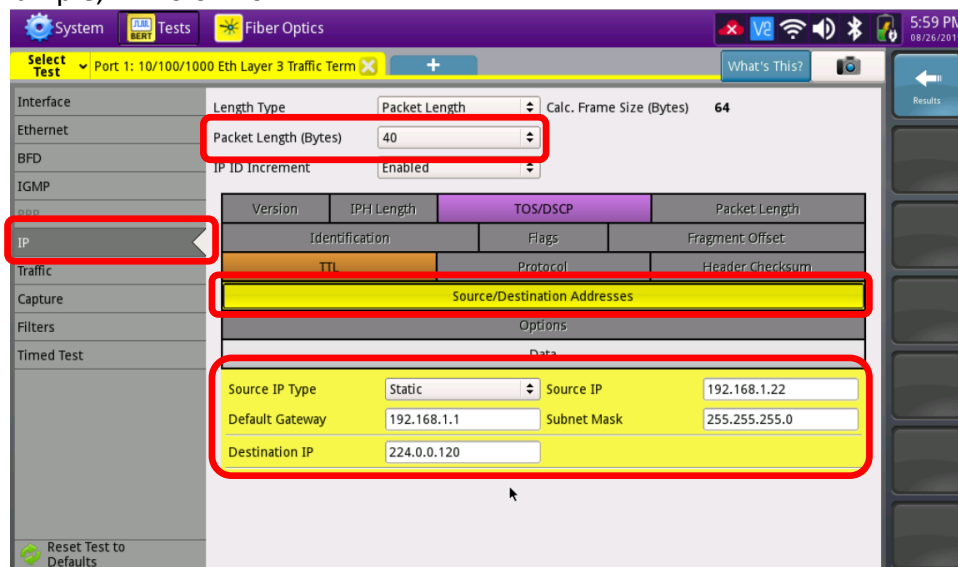


Figure 6: IP Settings

10. Select the **Traffic** settings tab. Set **Load Unit** to **Bit Rate** and set **Load** to the desired traffic rate for the Multicast traffic.
11. Tap the **Results** Soft Key,  to view the Results screen.
12. If using the optical test port on T-BERD/MTS press the **Laser Off** button at the bottom of the screen to turn on the port laser. The button will turn yellow and be relabeled **Laser On**.
13. **Sync Acquired** and **Link Active** LEDs are green. A green **Signal Present** LED  indicates the T-BERD/MTS is receiving an optical signal from the port under test. Green **Sync Acquired** and **Link Active** LEDs indicate that the T-BERD/MTS has successfully connected to the port under test and the link is active.

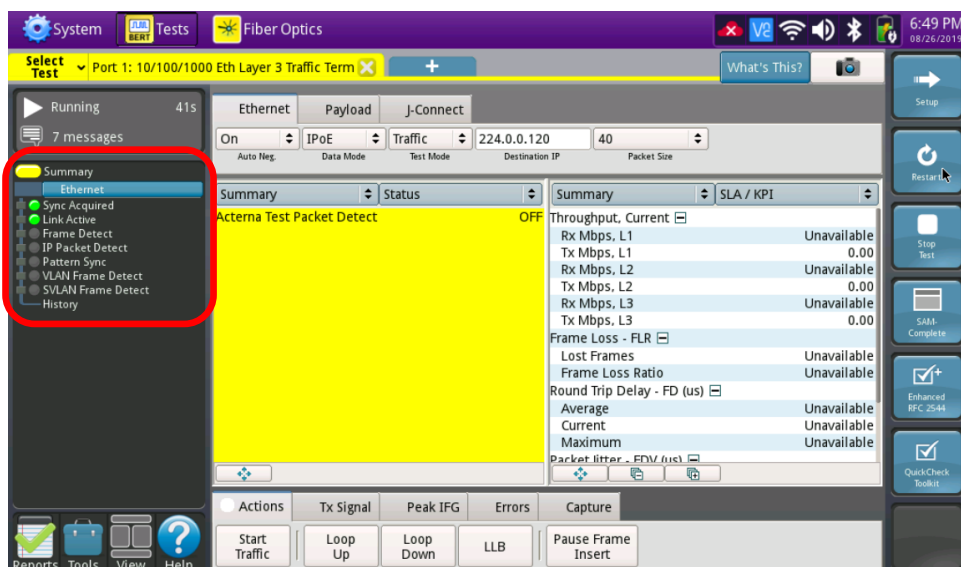


Figure 7: Results Screen

14. Tap **Start Traffic** in the Action tab at the bottom of the screen to start transmitting Multicast traffic.

The button will turn yellow and be relabeled

Traffic Started

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

16. You can observe the Multicast traffic transmit rate in the Summary -> SLA/KPI results view.

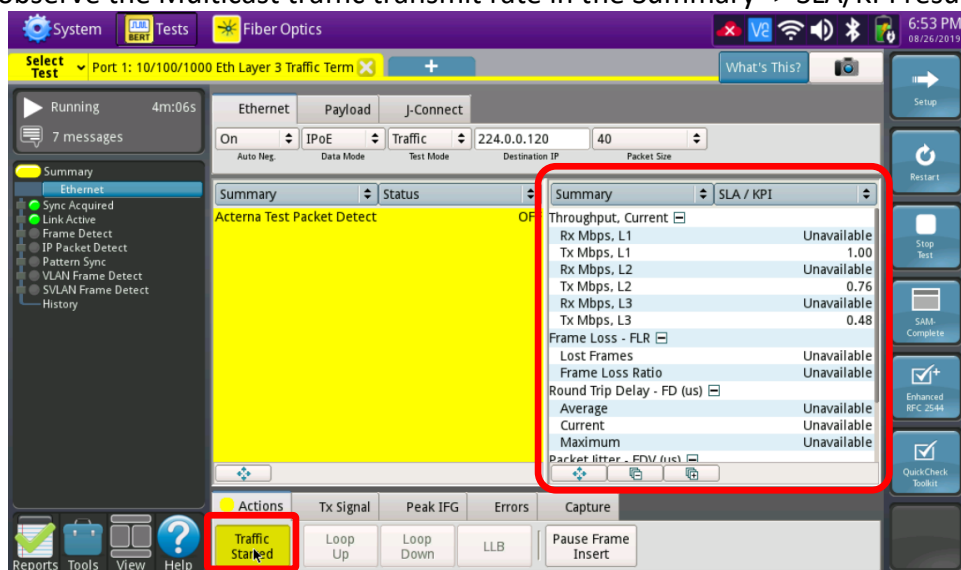


Figure 8: Summary Results