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
  - CS10M1GE 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

**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.)
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.

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.
3. If the test is not in the default settings, tap the **Tools icon** and select **Reset Test to Defaults**. Tap **OK** 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](image)

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.
14. Tap in the Action tab at the bottom of the screen to start transmitting Multicast traffic. The button will turn yellow and be relabeled.

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.