Quick Card

**T-BERD®/MTS-5800 Network Tester**

**Ethernet Packet Capture/Decode from SPAN ports**

This document outlines how to use the T-BERD 5800 to capture and analyze live, in-service network traffic from a SPAN (Switch Port Analyzer) port on an Ethernet switch. A SPAN port is a spare switch port configured to transmit a copy of the packets sent or received on another switch port. It allows the T-BERD to receive and analyze all network traffic, without being physically attached to that port. Bidirectional Traffic can be transmitted to the T-BERD on a single RJ-45, SFP, or QSFP port.

**Equipment Requirements:**

- T-BERD/MTS-5800 equipped with the following:
  - BERT software release V28.0 or greater
  - Ethernet test options:
    - C510M1GE and C5LSCAPTURE for 10/100/1000 copper and 1 Gigabit Optical.
    - C510GELAN and C510GCAPTURE for 10 Gigabit Ethernet.
    - C5100GELAN and C5100GCAPTURE for 100 Gigabit Ethernet.
  - SFP or QSFP optical transceiver to match the line under test
- Patch Cables to match the optical transceiver and line under test (CAT5E, Single mode or Multimode Fiber)
- 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.)
- Filtering criteria (VLAN ID, Destination MAC address, Source MAC address, EtherType)

**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/QSFP Port, bulkhead connectors, patch cables, etc.)

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*Figure 1: Equipment Requirements*

*Figure 2: Inspect Before You Connect*
Connect to SPAN Port:

- For copper 10/100/1000BASE-T interfaces on the T-BERD 5800v2, use CAT 5E or better cable to connect the T-BERD’s Port 1 RJ-45 port to the SPAN port.
- For copper 10/100/1000BASE-T interfaces on the T-BERD 5800-100G, use CAT 5E or better cable to connect the T-BERD’s Port 2 RJ-45 port to the SPAN port.
- For optical interfaces, insert the required SFP/QSFP into the Port 1 slot on the T-BERD and connect the T-BERD’s SFP/QSFP to the SFP/QSFP in the SPAN port. Use yellow Single mode patch cables with Single Mode optics; use orange or teal Multimode fiber patch cables with multimode optics.

Launch 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, Monitor test as follows:
   - For 10/100/1000BASE-T Copper SPAN Ports on the T-BERD 5800v2:
     Ethernet►10/100/1000►Layer 2 Traffic►P1 Monitor
   - For 10/100/1000BASE-T copper SPAN Ports on the T-BERD 5800-100G:
     Ethernet►10/100/1000►Layer 2 Traffic►P2 Monitor
   - For GigE optical Span ports:
     Ethernet►1GigE Optical►Layer 2 Traffic►P1 Monitor/Thru
   - For 10GigE optical Span ports:
     Ethernet►10GigE LAN►Layer 2 Traffic►P1 Monitor/Thru
3. For optical SPAN ports, select the Laser tab in the Actions panel, and press . The button will turn yellow and be relabeled .
Configure Test:

1. Tap [Tools] to display the T-BERD’s Tools Panel. Tap [Reset Test to Defaults] and press [OK] to continue.

2. Check LEDs: a green Signal Present LED ● indicates the T-BERD is receiving an optical signal from the Span port or TAP. Green Sync Acquired and Link Active LEDs indicate that the T-BERD has successfully connected to the Span Port or TAP.

3. Press the Setup soft key [Setup] and select the Filters menu.

4. In the Filters/Ethernet settings, set desired encapsulation, MAC Address filter (DA or SA), VLAN filter, or Type filter.

5. In the Rx/Payload settings, set Payload Analysis to Off.

6. Press the Results soft key [Results] to return to the Results screen.
Packet Capture/Decode:

1. Press the Restart Soft Key on the right side of the screen.

2. Set the right Results Window to display Ethernet/Capture results.

3. Select the Capture tab in the Actions panel, and press Start Capture. The button will turn yellow and be relabeled Capture Started.

4. When the desired number of packets have been processed, press Stop Capture to stop packet capture. The button will turn gray and be relabeled.

5. Press Save Capture Buffer. Ensure “Launch Wireshark after saving” is checked and press to save the PCAP (Packet CAPture) file to the /bert/capture folder of the T-BERD’s hard drive.

6. View and analyze the packet capture using WireShark.

Note: Go to https://www.wireshark.org/ for information and tutorials on WireShark.