T-BERD/MTS 5800 Portable Network Tester

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QUICK CARD

DS3 Bit Error Rate Testing (BERT)

This quick card describes how to configure and run a DS3 Bit Error Rate Test to a hard loop, or another similarly configured T-BERD.

- T-BERD/MTS 5800 equipped with the following:
  - BERT software release V30.1.0 or greater
  - C5DS3STS1 test option: DS3/STS-1 Electrical
  - C5DUALPORT test option: Dual Port option (required on T-BERD 5800-100G only)

- Two (2) mini-BNC to BNC adapters (CB-MINITOBNCQTY1) for T-BERD 5800-100G and T-BERD 5882 only

- One of the following DS3 cable sets to connect the T-BERD 5800 DS3 Port(s) to the line under test:
  - Two (2) BNC to BNC cables (CB-30662)
  - Two (2) BNC to WECO 440A cables (CB-015837)

Figure 1: Equipment Requirements

LAUNCH TEST

1. Press the Power button ⏻ to turn on the T-BERD.

2. Press the **Test** icon 🖥 Tests at the top of the screen to display the **Launch Screen**.

3. Using the **Select Test** menu, Quick Launch menu, or Job Manager, launch the **DS1/DS3►DS3►DS3 BERT►Terminate** test.
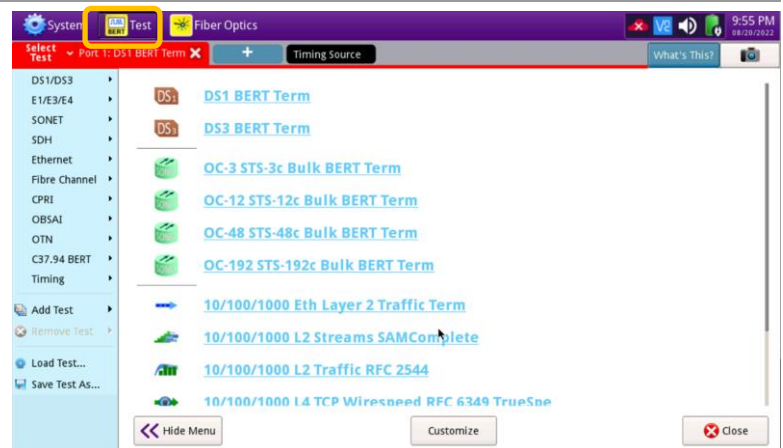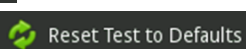
Figure 2: Launch Screen

4. Tap 🧰 to open the **Tools** Panel and select 🔄 Reset Test to Defaults .
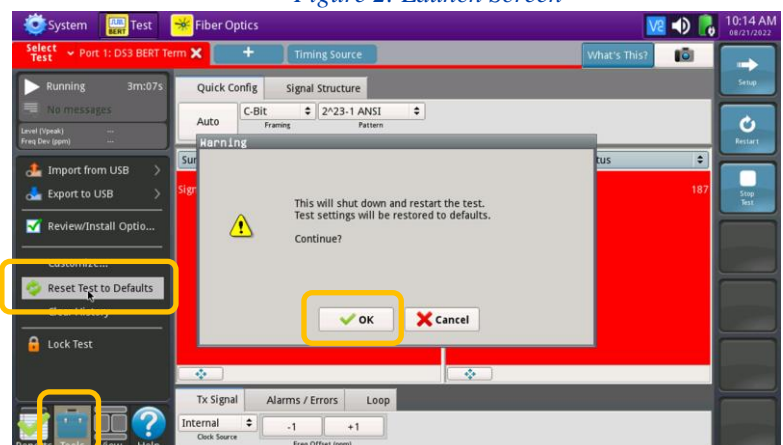
5. Press ✔ OK to continue.

Figure 3: Tools Panel

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CONFIGURE TEST

- The following Information is needed to configure the test:
  - DS3 Framing (C-BIT or M13)
  - Clock Source (Internal or Recovered)
  - Test Patterns(s)
  - BER Pass/Fail Threshold

Figure 4: Work Order

1. Press the **Setup** soft key [Setup] on the top right side of the screen.
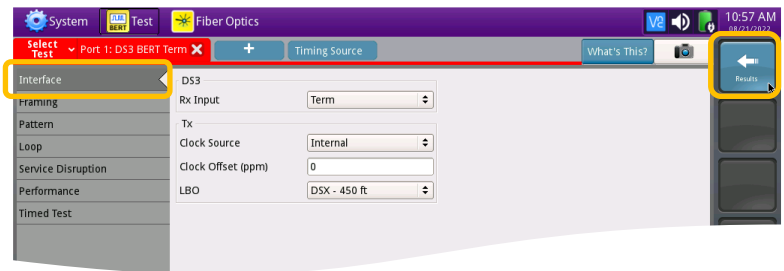

Figure 5: Setup, Interface

2. Select the indicated folders and configure your test as follows. Leave all other values at default, unless specified in the work order.

Folder	Option	Value(s)
Interface	Rx Input	Term
	Clock Source	If unknown, select "Internal"
	Clock Offset	0 ppm
	LBO	0 dB
Framing	Framing	If unknown, select "C-BIT"
Pattern	Pattern Mode	ANSI
	Pattern	2^23-1 ANSI
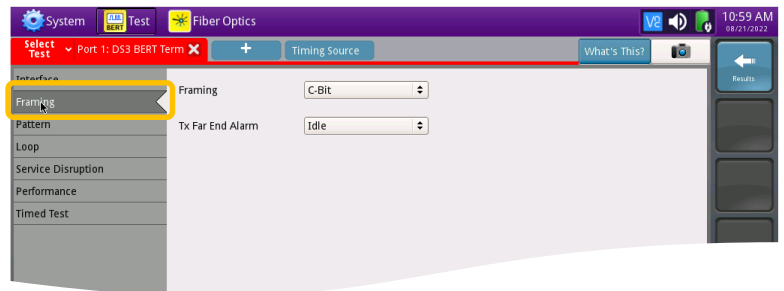
Figure 6: Setup, Framing

3. Press the **Results** soft key [Results] to view the Test Results screen.

Figure 7: Setup, Pattern

T-BERD/MTS 5800 Portable Network Tester
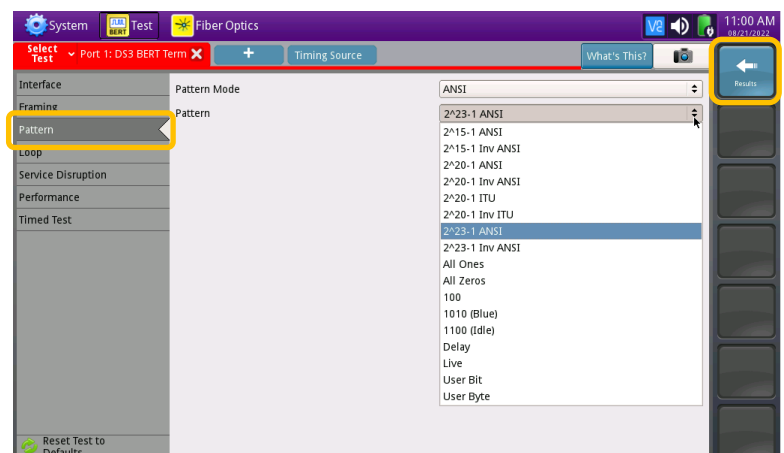
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CONNECT TO LINE UNDER TEST

- T-BERD 5811 AND T-BERD 5822 mainframes have BNC ports for DS3 testing. You may use BNC to BNC or BNC to WECO cables to connect the T-BERD to the line under test.
- T-BERD 5882 and T-BERD 5800-100G mainframes have mini-BNC ports for DS3 testing. CB-MINITOBNCQTY1 adapters are required to adapt to a standard BNC connector. You may use BNC to BNC or BNC to WECO cables to connect the adapter to the line under test.
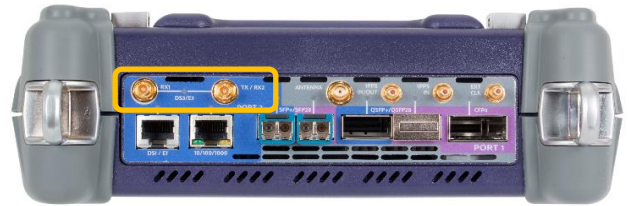

Figure 8: BNC Connectors

Figure 9: Mini-BNC Connectors

RUN TEST

1. Using drop-down menus ⬍ , select "**Interface/Signal**" for the right results display.
2. Press the Restart soft key ↻ .
3. Verify the following:
   - ▶ **Summary** LED is green.
   - ▶ **Signal Present** LED is green.
     If the LED is red, check your cables. Tx and Rx may be reversed.
   - ▶ **Frame Sync** LED is green.
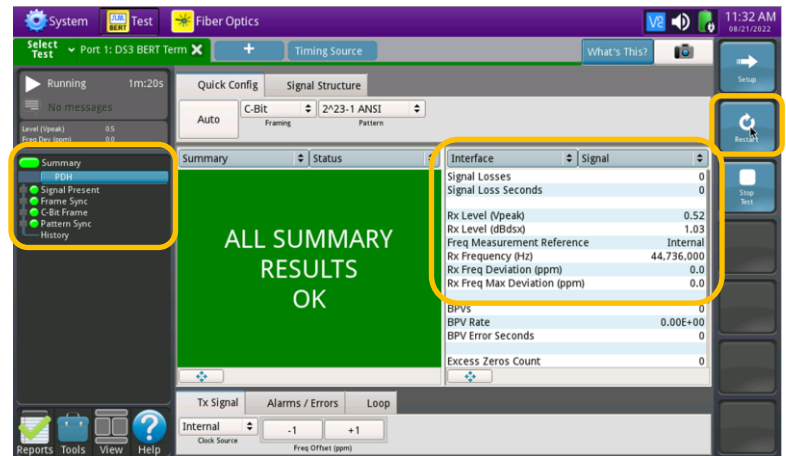   - ▶ **RX Frequency (Hz)**
     = 44736000 +/- 895 Hz.

Figure 10: Results, Interface/Signal

4. Using drop-down menus ⬍ , select "**Payload/BERT**" for the right results display.
5. Allow the test to run for desired duration and verify the following:
   - ▶ **Pattern Sync** LED is green.
   - ▶ **Bit/TSE Error Rate** result does not exceed your required threshold.
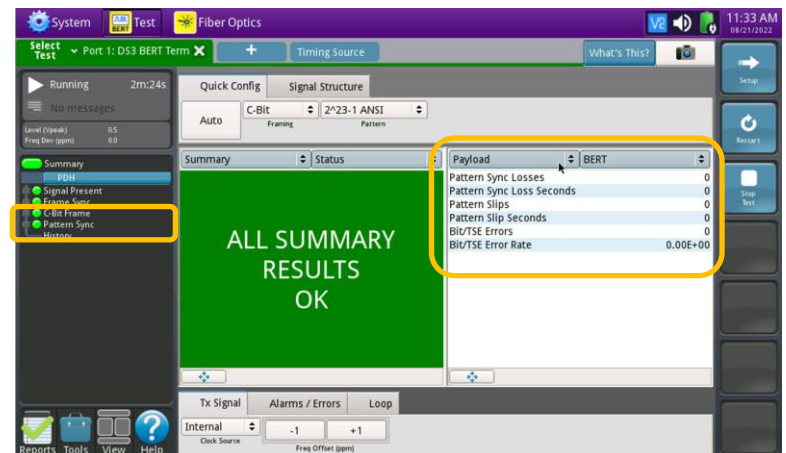   (0.00E+00 if pass/fail threshold unknown)

Figure 11: Results, Payload BERT

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6. In the T-BERD's **Quick Config** menu, change "**Pattern**" to the next value in the test plan.

7. Press the Restart soft key ⟳ to reset results.

8. Allow test to run for desired duration and verify the following:
   ► **Pattern Sync** LED is green.
   ► **Bit/TSE Error Rate** does not exceed your required threshold.
   (0.00E+00 if pass/fail threshold unknown)

9. Repeat steps 6 through 8 for all **Patterns** in the test plan. Patterns may include:
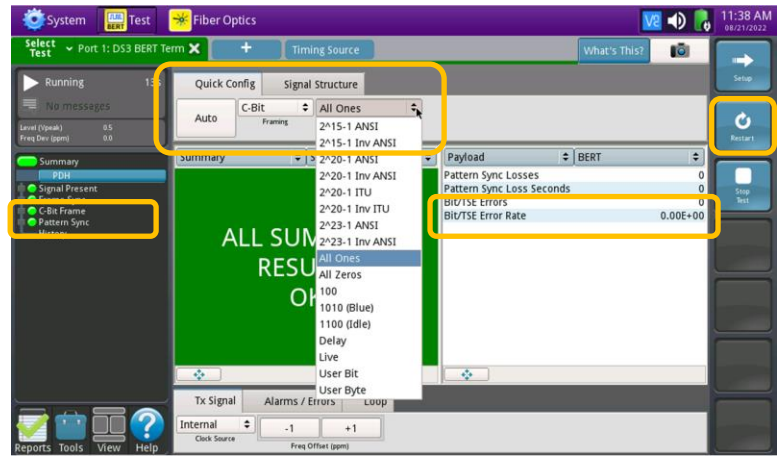   ► **Delay**: Measures Round Trip Delay (RTD) instead of Bit Errors (RTD values are shown instead of BER in the "Payload/BERT" results display)
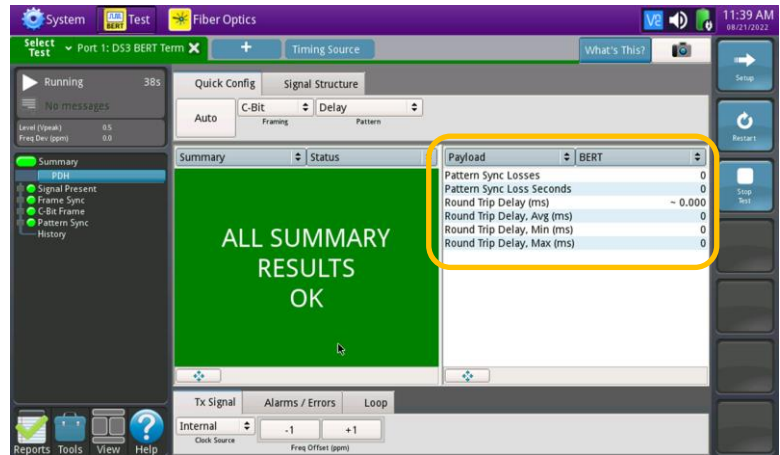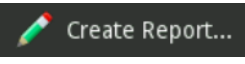   ► Others

Figure 12: Results, Quick Config

Figure 13: Results, Round Trip Delay

CREATE REPORT

1. Tap [Reports] to open the **Reports** Panel and select ✎ Create Report... .

2. Tap [Create] .

3. A report will be saved to the T-BERD 5800's **/bert/reports** folder.

Figure 14: Create Report

Contact Us

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