

Quick Card

T-BERD 5800 Network Tester 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 to another similarly configured T-BERD.

Equipment Requirements:

- T-BERD 5800 equipped with the following:
 - BERT software release V27.0 or greater
 - Test options:
 - C5DS3STS1: DS3/STS-1 Electrical option
 - C5DUALPORT: Dual Port option (required on T-BERD 5800-100G only)
- One or more 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)
 - Two (2) mini BNC to BNC adapters (CB-MINITOBNCQTY1) for T-BERD 5800-100G



Figure 1: Equipment Requirements



The following information is required to complete the test:

- DS3 Framing (C-BIT or M13)
- Clock Source (Internal or Recovered)
- Test Patterns(s)
- BER Pass/Fail Threshold

Connect to Line Under Test:

- The T-BERD 5800v2 has 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.
- The T-BERD 5800-100G has 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.

Run Test:

1. Press the Power button  to turn on the test set.
2. Press the Test icon  at the top of the screen.
3. Using the **Select Test** menu, **Quick Launch** menu, or **Job Manager**, launch the **DS1/DS3** ► **DS3** ► **DS3 BERT** ► **Terminate** test.

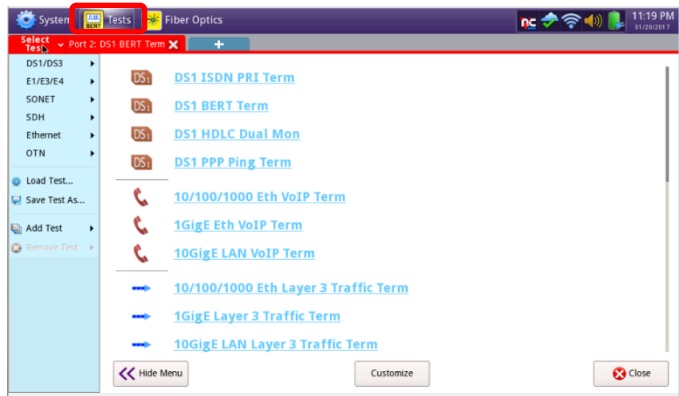





Figure 2: Launch Screen

4. Tap  to open the **Tools Panel** and select .
5. Press  to continue.

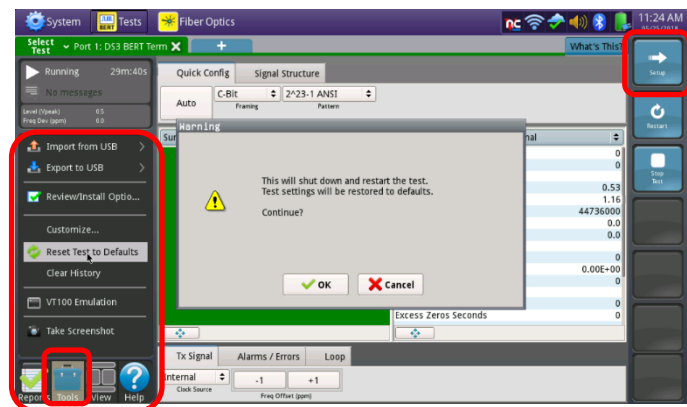



Figure 3: Tools Panel

6. Press the **Setup** soft key, , on the top right side of the screen. 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 (ppm)	0
	LBO	0 dB
Framing	Framing	If unknown, select "C-BIT"
Pattern	Pattern Mode	ANSI
	Pattern	2^23-1 ANSI

7. Press the **Results** Soft Key  to view the **Test Results** screen.

8. Using the drop-down menus, select “**Interface/Signal**” for the right Results display.

9. Press the **Restart** soft key .

10. 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

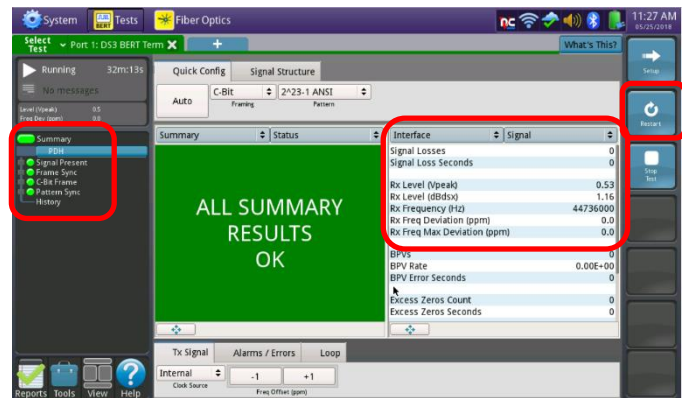


Figure 4: Test Results Screen, Interface/Signal

11. Using the drop-down menus, select “**Payload/BERT**” for the right results display.

12. 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)

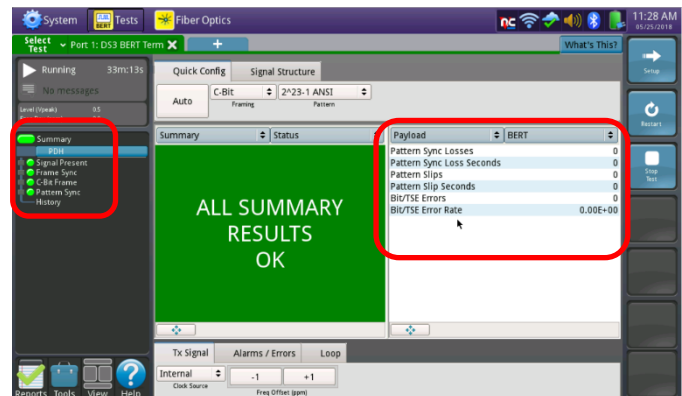



Figure 5: Test Results Screen, Payload/BERT

13. In the T-BERD’s **Quick Config** menu, change “**Pattern**” to the next value in the test plan.

14. Press the **Restart** soft key  to reset results.

15. 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)

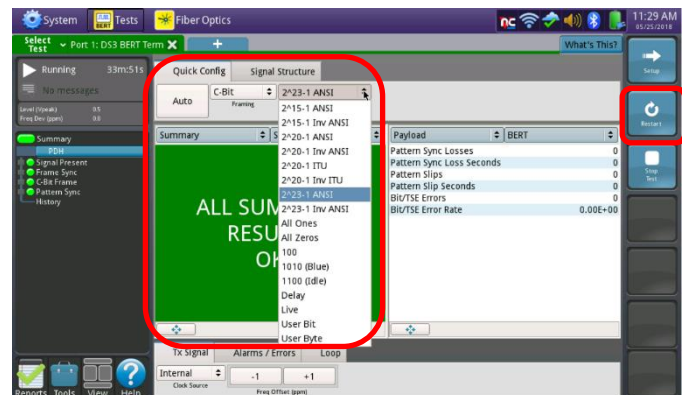


Figure 6: Test Plan

16. Repeat steps 13 through 15 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.