

Quick Card

T-BERD 5800 Network Tester Datacom Bit Error Rate Testing (BERT)

This quick card describes how to configure the T-BERD 5800 as Data Terminal Equipment (DTE) and run a Bit Error Rate Test on a Datacom interface using typical configuration settings. Please refer to the **T-BERD 5800 Testing Manual** for an explanation of all settings.

Equipment Requirements:

- T-BERD 5800 equipped with the following:
 - BERT software release V28.1 or greater
- Datacom Expansion Module (VIAVI Part# C5DEM)
- USB Type B to USB Type A cable
- One of the following Datacom cables to connect the Datacom Datacom Expansion Module to the line under test:
 - RS-232/V.24, EIA-530 Cable (VIAVI Part# CB-21148994-002)
 - RS-449/V.36 Cable (VIAVI Part# CB-21144332-002)
 - V.35 Cable (VIAVI Part# CB-21148995-002)



Figure 1: Equipment Requirements



The following information is required to complete the test:

- Interface (RS-232/V.24, EIA-530, RS-449/V.36, or V.35)
- Signal Mode (Balanced or Unbalanced)
- Timing Mode (Synchronous or Asynchronous)
- Rx Timing Source (Internal or Interface)
- Tx Timing Source (Internal or Interface)
- Out of Band Flow Control (On or Off)
- Test Patterns(s)
- BER Pass/Fail Threshold

Connect to Line Under Test:

- Connect the USB Type B to USB Type A cable to the Datacom Module and the USB port on the side of the T-BERD 5800.
- Connect the desired Datacom cable to the Datacom Expansion Module.
- Use the connector labeled “To DCE” to connect to the line under test.

Launch and Configure Test:

1. Press the Power button  to turn on the test set.
2. Tap the Datacom icon  at the top of the launch screen.

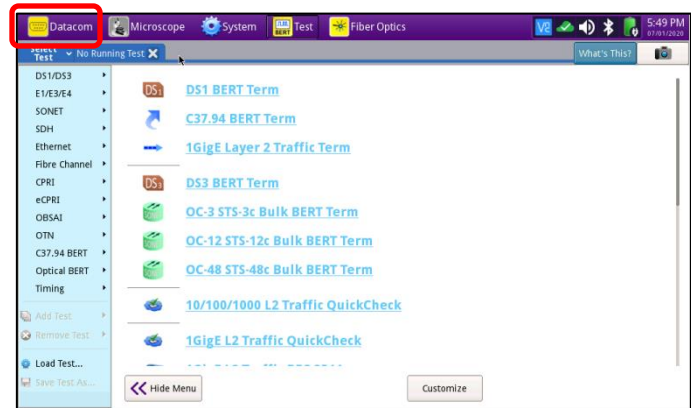

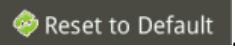



Figure 2: Launch screen

3. Press the **Setup** Soft Key  on the top right side of the screen.
4. Tap .
5. Press  to continue.

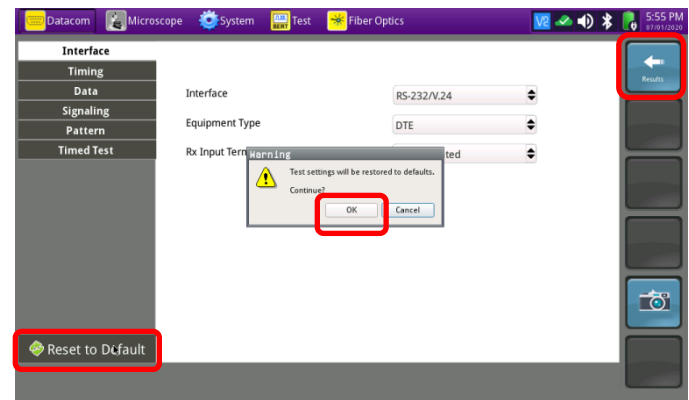


Figure 3: Reset Test to Defaults

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

Folder	Option	Value(s)
Interface	Interface	RS-232/V.24, EIA-530, RS-449/V.36, etc.
Timing	Timing Mode	Synchronous or Asynchronous
	Rx Timing Source	Interface (RT)
	Tx Timing Source	Select Interface (ST) for Synchronous timing, select Internal (Synth) for Asynchronous timing.
	Synthesizer Frequency	Enter frequency in kHz; i.e. 9.6 kHz for 9600 bps.
	Pattern	Enter the first Pattern in your test plan (QRSS, 2 ⁶ -1, etc.) Note: 2 ⁶ -1 = 63, 2 ⁹ -1 = 511, 2 ¹¹ -1 = 2047



7. Press the **Results** Soft Key  to view the **Test Results** screen.
8. Tap the **Signal Lead** tab at the bottom of the screen and tap the **RTS** and **DTR** buttons.
9. Press the **Restart** soft key .



Figure 4: Test Results Screen, Signal Leads

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

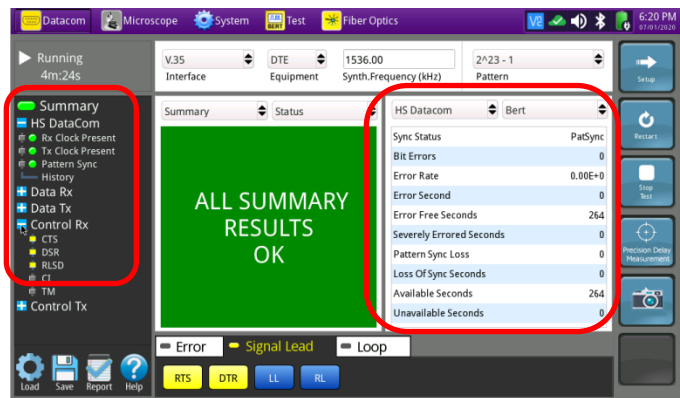



Figure 5: Test Results Screen, HS Datacom/BERT

12. In the T-BERD's **Quick Config** menu, change **"Pattern"** to the next value in the test plan.
13. Press the **Restart** soft key  to reset results.
14. Allow test to run for desired duration and verify the following:
 - **Pattern Sync** LED is green.
 - **Bit Error Rate** does not exceed your required threshold. (0.00E+00 if pass/fail threshold unknown)
15. Repeat steps 12 through 14 for all Patterns in the test plan.

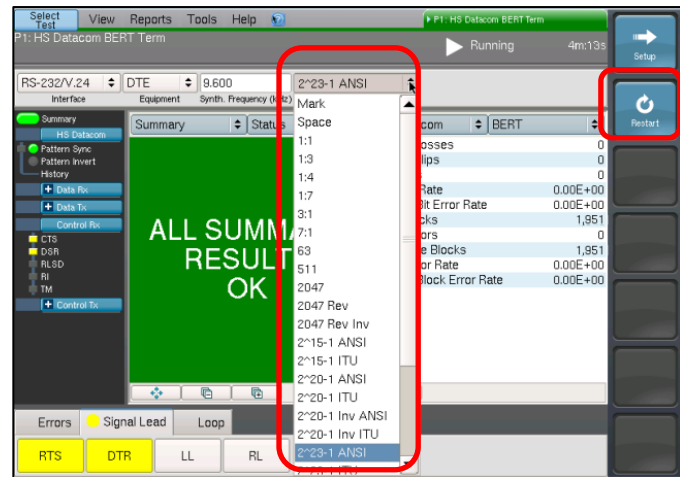


Figure 6: Test Plan