T1 Bit Error Rate Testing (BERT)
This quick card describes how to configure and run a T1 Bit Error Rate Test to a hard loop, or another similarly configured VIAVI Test Instrument.

- OneAdvisor 1000 equipped with the following:
  - 100G Transport Module
  - BERT software release V30.1.0 or greater
  - C5E1DS1 test option: E1/DS1 Electrical
  - C5DUALPORT test option
- One of the following T1 cable sets to connect the 100G Transport Module DS1 Port(s) to the line under test:
  - Dual Bantam to RJ-48C cable (CB-41645)
  - RJ-48C Patch cable (Straight-through or cross-over depending upon equipment under test)

LAUNCH TEST

1. Press the Power button 🌿 to turn on the OneAdvisor.
2. Press the 100G Module Test icon at the top of the screen.
3. Tap the Power button ⚪️ and click OK to launch the 100G Module.

4. Using the Select Test menu, Quick Launch menu, or Job Manager, launch the DS1/DS3►DS1►DS1 BERT►Terminate test.
OneAdvisor 1000 High-Speed Network Testing Platform

QUICK CARD

CONFIGURE TEST

- The following Information is needed to configure the test:
  - T1 Line Code (B8ZS or AMI)
  - T1 Framing (ESF or D4)
  - Clock Source (Internal or Recovered)
  - Test Patterns(s)
  - BER Pass/Fail Threshold

1. Tap to open the Tools Panel and select .
2. Press to continue.
3. Press the Setup soft key on the top right side of the screen.
4. Select the indicated folders and configure your test as follows. Leave all other values at default, unless specified in the work order.

<table>
<thead>
<tr>
<th>Folder</th>
<th>Option</th>
<th>Value(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interface</td>
<td>Rx Input</td>
<td>Term</td>
</tr>
<tr>
<td></td>
<td>Line Code</td>
<td>If unknown, select “B8ZS”</td>
</tr>
<tr>
<td></td>
<td>Clock Source</td>
<td>If unknown, select “Internal”</td>
</tr>
<tr>
<td></td>
<td>Clock Offset</td>
<td>0 ppm</td>
</tr>
<tr>
<td></td>
<td>LBO</td>
<td>0 dB</td>
</tr>
<tr>
<td>Framing</td>
<td>Framing</td>
<td>If unknown, select “ESF”</td>
</tr>
<tr>
<td>Pattern</td>
<td>Pattern Mode</td>
<td>ANSI</td>
</tr>
<tr>
<td></td>
<td>Pattern</td>
<td>QRSS</td>
</tr>
</tbody>
</table>

5. Press the Results soft key to view the Test Results screen.
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) = 1544000 +/- 50 Hz.

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)
6. In the OneAdvisor’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:
   - **QRSS**: Simulates live T1 traffic
   - **All Zeros**: Tests for equipment mis-optioned for AMI
   - **Multipat**: Five commonly used test patterns to allow BER testing without having to select each test pattern individually. Patterns are: All Ones, 1:7, 2 in 8, 3 in 24, and QRSS. Results are shown in the “**DS1/Multipat**” results display.
   - **Delay**: Measures Round Trip Delay (RTD) instead of Bit Errors (RTD values are shown instead of BER in the “**Payload/BERT**” results display)

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**CREATE REPORT**

1. Tap to open the **Reports** Panel and select .

2. Tap  .

3. A report will be saved to the OneAdvisor 1000 100G Transport Module’s `/bert/reports` folder.