If this is your First-Time-Use of PacketExpert™ 10G unit, then we recommend you to follow all the steps explained in PacketExpert-10G-Quick-Install-Guide before proceeding with the steps below.

For PacketExpert™ 10G functional verification, basic “All Port BERT” test can be performed using a single PacketExpert™ 10G unit.

“All Port BERT” test scenario can be demonstrated on 1G ports by directly connecting Port 1 to 2 through Ethernet cable (for Electrical Interface test)

OR

“All Port BERT” test scenario can be demonstrated on 10G ports by directly connecting Port 1 to 2 through SFP Transceivers and Optical cable (for Optical interface test).

Step1: Connect the cables

Perform Test on 10G Optical Interface (Port 1 and Port 2).

- For 10G Optical Interface Type, plug-in SFP Transceivers to the optical ports and connect Port 1 & Port 2 using LC optical cable. (refer to the below figure).
- **Note:** Make sure that the SFP is properly locked and the optical cable is properly plugged-in.

Perform Test on 1G (Electrical or Optical Interface)

- For 1G Electrical Interface type, cross-connect 1G: Port 1 to 2 using Ethernet cable as shown in the figure below.
- For 1G Optical Interface type, plug-in SFP Transceivers to the optical ports and connect LC optical cable to 1G: Ports 1 & 2, (refer to figure).

**Note:** Make sure that SFP is properly locked and the optical cable is properly plugged-in.
Step 2: Launch PacketExpert 10G Application

- Right click on the PacketExpert™ 10G shortcut icon on the desktop and select "Run as administrator" to launch PacketExpert™ 10G application as shown in the figure below.

**Note:** The application may not invoke and may prompt error message, if the license and the warranty licenses (GLSupportWarrantyLicenseInstaller_x86.exe) are not installed as explained in the PacketExpert 10G Quick Install Guide and also confirm that PXG100 is listed in Warranty Application List. If the warranty licenses are already installed and are expired, then please contact GL Communications to renew licenses.

- Click on Launch 10G option, to invoke the application with 10G ports or click on Launch 1G option, to invoke the application with 1G ports.

**Note:** The application may take some time to get started due to hardware and software initializations.

For 10G Optical connections,

On launch, All Port Bert application is loaded, by default. Also, a default configuration file is automatically loaded with the pre-configured settings. On the RHS side, in the Interface pane, select the ports from the drop-down list and verify the following settings for each port:

- **Interface Type = Optical**
- **Speed = 10000Mbps**
- **Verify the IP Addresses of Port 1 & Port 2**, which are configured as mentioned below:
  - Port 1: 192.168.1.102
  - Port 2: 192.168.1.103

**Note:** For 1G Electrical or Optical connections, on the RHS side, in the Interface pane, select the ports from the Port Selection drop-down list and set the following for each port:

- **Select Interface Type = Electrical** (or) Optical (depending on the ports connected).
- **Speed = 1000Mbps**
- **Verify IP Addresses for 1G: Ports 1 & 2**, which are configured as mentioned below:
  - Port 1: 192.168.1.101
  - Port 2: 192.168.1.104
- Click on the Apply button.
Step 3: Verify Links

To verify PacketExpert™ 10G basic functionality, run a BERT test between 10G: Ports 1 and 2 (this means the destination for 10G Port 1 is 10G Port 2 and vice versa).

- Verify that the Link Status is UP on both the ports, that is, on launch, the LHS tree should display green LEDs link status on both Port 1 and Port 2 as shown in the figure below. If the LED shows red (refer to the figure), then link is Down.

- Refer to the troubleshooting steps below to get the links UP:
  - Check if the optical cables are connected to the correct ports (i.e. Port 1 and Port 2 should be connected)
  - Check if there are any loose connections and connect the cables properly.
  - If still the link is not UP, double click "Interface" under the port in the LHS tree to launch the "Interface" dialog in one of the RHS panes. Click the "Apply" button. This will reinitialize the port and will force it to go through the auto negotiation cycle again.
  - The above steps should get the link UP. If the problem still persists, contact GL Communications Inc.

Step 4: Configure MAC Addresses

Each port should have the destination MAC addresses configured correctly. Follow the steps below to configure destination MAC addresses:

For 10G: Port 1,
- In the LHS tree, in Bert under Port 1, double click Tx Config. The Tx Config window opens in one of the RHS panes.
- Go to MAC tab
- Click "Resolve" button next to the Destination MAC Address as shown in the figure below:

Enter the IP Address of the destination port (Port 2), 192.168.1.103
- Click Resolve.
- It will run ARP and returns the MAC Address of the destination port, with Result displayed as "Success" as shown in the figure below:

- Click OK to configure the destination MAC address for the port

Repeat the above steps for Port 2 to configure its MAC address by entering the IP Address of the destination port (Port 2), 192.168.1.102.
Step 5: Start test

- Hold the **Control** key of the keyboard and from the LHS tree, select **Bert** using mouse under **Port 1**, and **Port 2** tree simultaneously.
- Click **Start** (refer to figure)

Step 6: Verify Results

Follow the steps below to verify the **Results**:

- From LHS tree, click **Results** under **Bert** from **10G: Port 1**.
  The **Results** pane opens in one of the 4 RHS panes.

- Under **Bert Status** pane, verify these LEDs:
  - Sync Status LED = Green,
  - Bit Errors LED = Green,
  - Out of Sequence Packets LED = Green

- Under **Bert Statistics** pane, verify these values:
  - Bert Status = Sync
  - Bit Error Count = 0
  - Bit Error Rate = 0.000E+000
  - Bit Error Seconds = 0
  - Sync Loss Count = 0
  - Sync Loss Seconds = 0
  - Out of Sequence Count = 0
  - Out of Sequence seconds = 0

Repeat the above steps for **Port 2** and verify the results for both the ports. If anyone of the port shows errors, contact GL Communications Inc.
Step 7: Stop test

- To stop the test after verifying the results, hold the Control key of the keyboard and from the LHS tree, select Bert using mouse under Port 1, and Port 2 tree simultaneously.