

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)

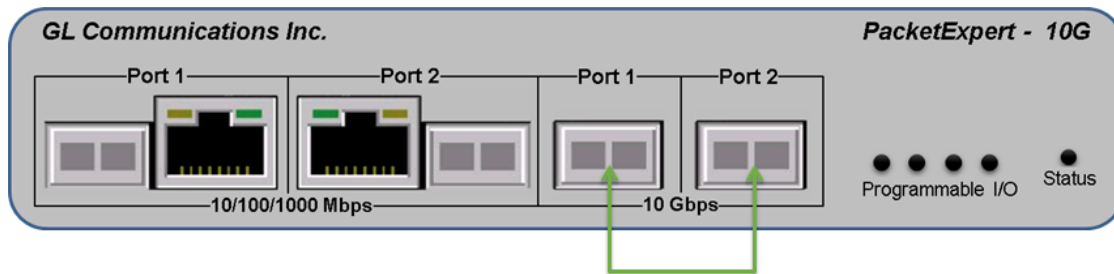
OR

“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.

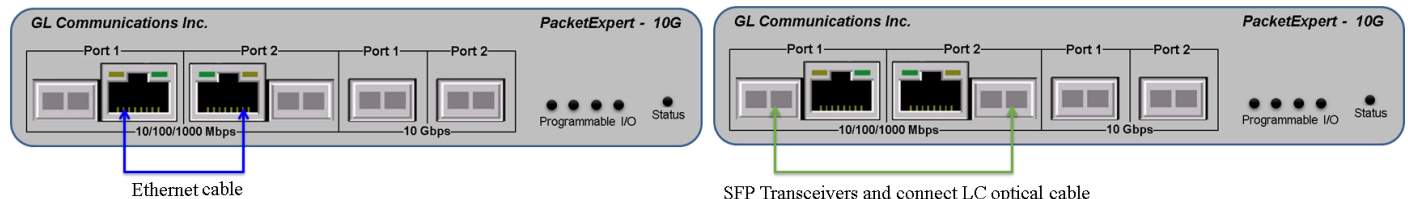


SFP Transceivers and connect LC optical cable

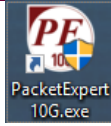
#### Perform Test on 1G (Electrical or Optical Interface)

- 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.



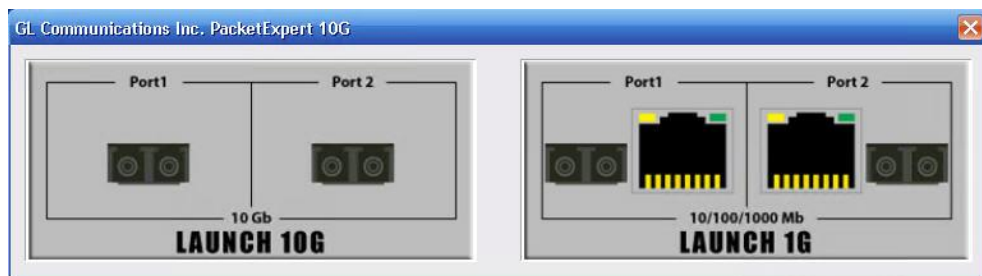
**Step2: Launch PacketExpert 10G Application**



- 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.

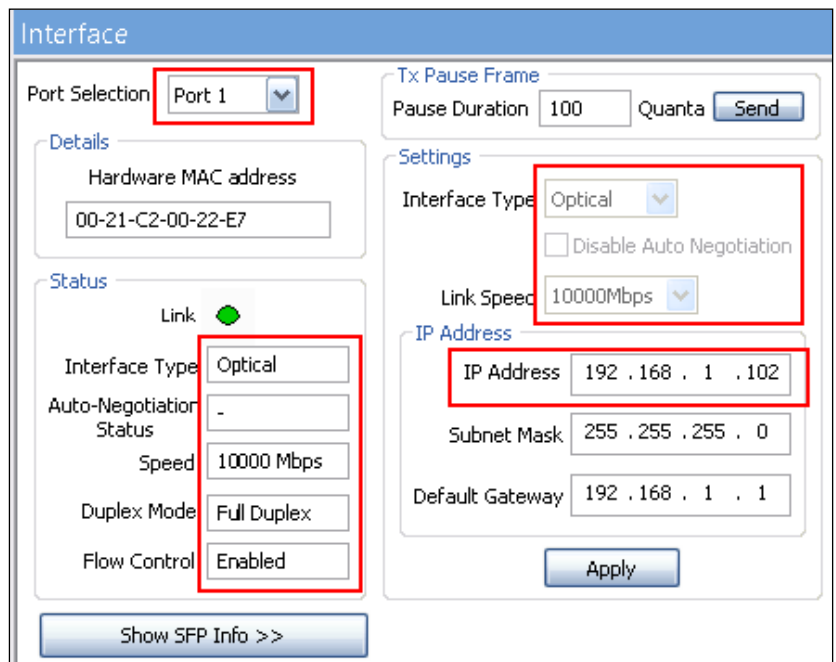
**For 10G Optical connections,**

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:
  - Port1: 192.168.1.102
  - Port2: 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:

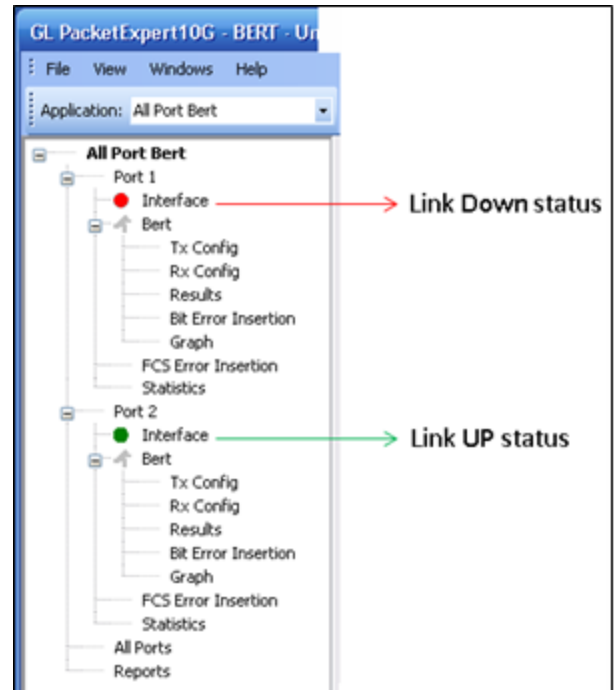
- Select **Interface Type = Electrical** (or) **Optical** (depending on the ports connected).
- Speed = **1000Mbps**
- Verify IP Addresses for **1G: Ports 1 & 2**, which are configured as mentioned below:
  - Port1: 192.168.1.101
  - Port2: 192.168.1.104
- Click on the **Apply** button.



### Step3: Verify Links

To verify PacketExpert™ 10G basic functionality, run a **BERT** test between 10G: Ports 1 and 2 (this means the destination for 10G Port1 is 10G Port2 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.

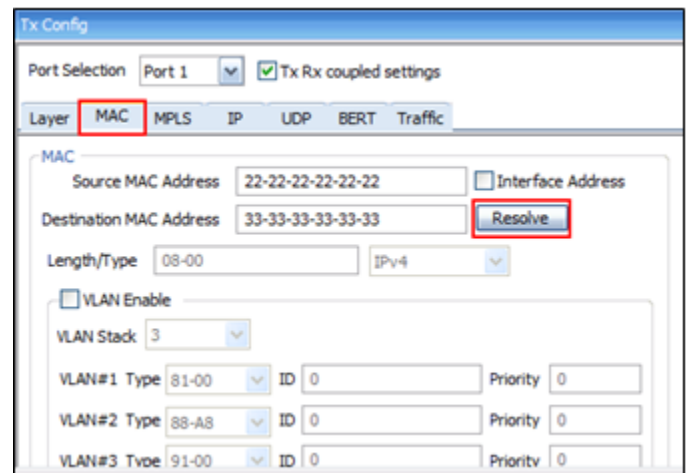


### Step4: Configure MAC Addresses

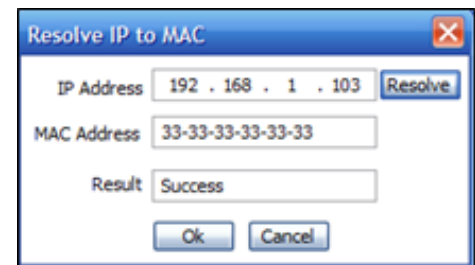
Each port should have the destination MAC addresses configured correctly. Follow the steps below to configure destination MAC addresses :

For 10G: Port1,

- 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:



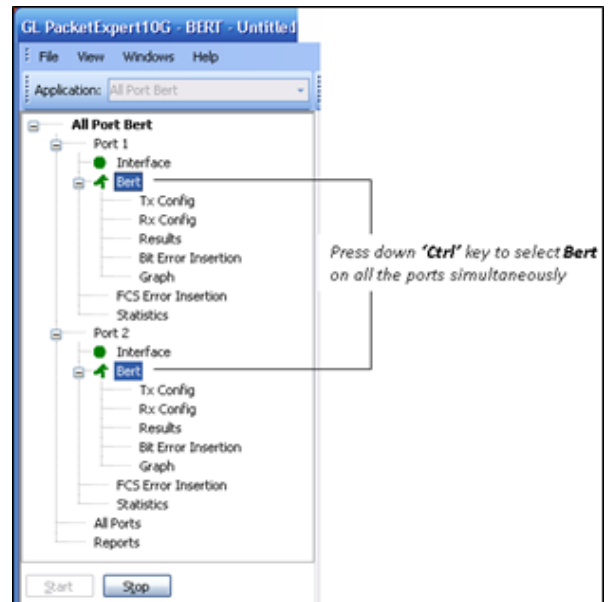
- Enter the IP Address of the destination port (Port 2) ,192.168.1.103
- Click **Resolve**.
- It will run ARP and returns the MAC Address of the destination port, with **Result** displayed as "**Success**" as shown in the figure below:



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.

**Step5: Start test**

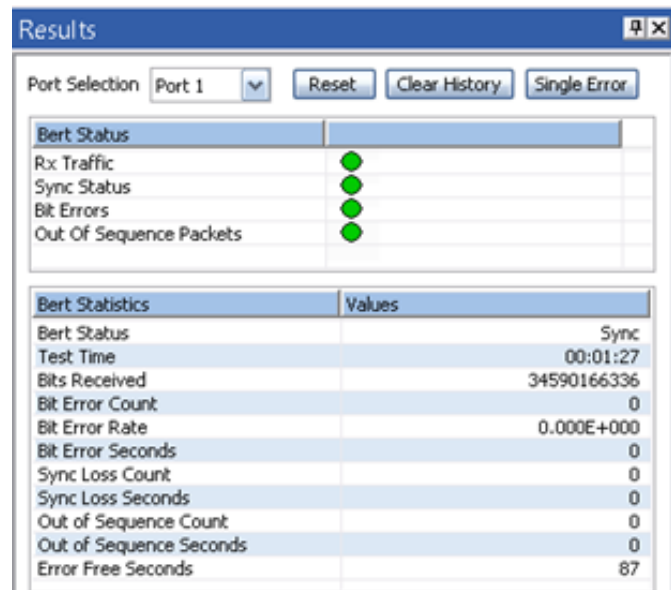
- Hold the **Control** key of the keyboard and from the LHS tree, select **Bert** using mouse under **Port 1**, and **Port 2** tree simultaneously.
- Click **Start**.(refer to figure)



**Step6: Verify Results**

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

- From LHS tree, click **Results** under **Bert** from **10G: Port1**,  
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.

**Step7: 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.

