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

Normal Instructions – Follow these precisely

- ‘ExpertSAM™’ is an optional application and requires purchased licenses to be installed.
- Plug-in the USB installation stick (pen drive) provided with the shipment package by GL Communications.
- Execute GLHWLicenseInstaller.exe from the USB Installation Stick to install the optional application licenses.
- Follow onscreen instructions, the license for the purchased optional application will be installed.
- Run T1E1AppList.exe available in the C:\Program Files (x86)\GL Communications Inc\GL Hardware License Installer (or C:\Program Files\GL Communications Inc\GL Hardware License Installer) directory and confirm that the purchased ExpertSAM licenses (PXG106) is listed against the hardware purchased.

Note: When the application is started, if the following ‘License Error’ is prompted, then you may have not installed the Hardware licenses. You can do so as explained in section above at any time after installing the software.

Note: Ensure that warranty license (GLSupportWarrantyLicenseInstaller_x86.exe) is installed and also confirm that ExpertSAM( PXG106 ) is listed in Warranty Application List.

Quick Verification

In the following test scenario, 2 units of 10G PacketExpert™ are used to verify ‘ExpertSAM’ feature.

The test setup requires 2 PCs/laptops and 2 PacketExpert™ 10G units. The PacketExpert™ units are connected to PC1 and PC2 through USB cable connection. Here, PC1 is connected to PacketExpert hardware unit 1 and PC2 is connected to PacketExpert hardware unit 2.

Note: The following test requires PacketExpert 10G application (PXG100) to be installed on both the PCs (PC-1 and PC-2) and ‘ExpertSAM’ application (PXG106) licenses to be installed on PC-1.
'ExpertSAM™' test on 1G ports:

'ExpertSAM™' test scenario can be demonstrated on 1G ports by connecting 1G Port 1 of PacketExpert of hardware unit-1 and 1G Port 1 of PacketExpert hardware unit-2 using Ethernet CAT5e cables (for Electrical Interface test) or using SFP Transceivers and LC optical cables (for Optical Interface test).

1G Port 1 of PacketExpert™ Unit 1 is connected to 1G Port 1 of PacketExpert unit 2 using Ethernet CAT5e cables (for Electrical Interface test), as shown below: After successful Software installation, plug in the PacketExpert 10G Hardware unit to PC as indicated in the figure below:

Note: The above test can also be setup using LC optical cables (for Optical Interface)

'ExpertSAM™' test on 10G ports:

'ExpertSAM™' test scenario can be demonstrated on 10G ports by connecting 10G Port 1 of PacketExpert of hardware unit-1 and 10G Port 1 of PacketExpert hardware unit-2 using SFP Transceivers and LC optical cables.

10G Port 1 of PacketExpert™ Unit 1 is connected to 10G Port 1 of PacketExpert unit 2 using SFP Transceivers and LC optical cables, as shown below:

After successful Software installation, plug in the PacketExpert 10G Hardware unit to PC as indicated in the figure below:
Step 1: Connect the cables

For 1G ports:
Perform test between 1G Port 1 of PacketExpert Unit-1 and 1G Port 2 of PacketExpert Unit-2 (Electrical or Optical Interface)
- For Electrical Interface type, connect Port 1 of hardware unit-1 to Port 1 of hardware unit-2 using Ethernet cable as shown in the figure.
- For Optical Interface type, plug-in SFP Transceivers to the optical ports and connect LC optical cable Port 1 of hardware unit-1 to Port 1 of hardware unit-2 (refer to figure below)

Note: Make sure SFP is properly locked and the optical cable is properly plugged-in.

For 10G ports:
Perform test between 10G Port 1 of PacketExpert Unit-1 and 10G Port 2 of PacketExpert Unit-2
- Plug-in SFP Transceivers to the optical ports and connect LC optical cable Port 1 of hardware unit-1 to Port 1 of hardware unit-2 (refer to figure below)

Note: Make sure SFP is properly locked and the optical cable is properly plugged-in.

Step 2: All Port Loopback Application on PC-2
In this test, we are performing a loop back test between PC1 and PC2. For this, we need to run “All Port Loopback” application on PC2.

- On PC2, right-click on the PacketExpert 10G shortcut icon created on the desktop and select Run as Administrator to launch PacketExpert 10G application.
- For 1G ports, click on Launch 1G option, to invoke the application with 1G ports.
- For 10G ports, click on Launch 10G option, to invoke the application with 10G ports

Note: The application may take some time to get started due to hardware and software initializations.
• By default, the PacketExpert is invoked displaying All Port Bert application. Load All Port Loopback from the Applications drop-down list as shown in the figure below.

• For 1G ports, in the function tree, under Port1, double click Interface to open the Interface dialog in one of the RHS panes. Change Link Speed to Auto and click on Apply. Wait for sometime till the port negotiates with link partner.

  Note: there is no need to do any Interface settings for 10G ports.

• Verify that the Link Status is UP on Port 1, that is, the Function Tree should display Port 1 with green LED link status (refer to figure). If the LED shows red, then link is down. If the link status is not UP, refer to troubleshooting steps explained in PacketExpert™ 1G Quick Install Guide.

• In function tree, under Port1, right click Loopback and select Start to start Smart Loopback on Port1, as shown in the figure.

Step 3: Launch ExpertSAM Application on PC-1

• On PC-1, right-click on the PacketExpert 10G shortcut icon created on the desktop and select "Run as Administrator" to launch PacketExpert 10G application.
• For 1G ports, click on Launch 1G option, to invoke the application with 1G ports.
• For 10G ports, click on Launch 10G option, to invoke the application with 10G ports

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

• By default, the PacketExpert is invoked displaying All Port Bert application. Load ExpertSAM from the Applications drop-down list as shown in the figure below.
Step 4: Configure ExpertSAM Interface Parameters

For 1G Electrical or Optical connections,

From the Function Tree, double-click on the Interface to invoke Interface pane on RHS window, select the ports from the Port Selection drop-down list and do the following for Port 1:

- Interface Type = Electrical (or) Optical (depending on the ports connected)
- Link Speed = 1000Mbps
- Click on the Apply button (this will set the Interface Type in the hardware)
- Wait for some time as the port auto-negotiates with its link partner. Verify the following:

  - Auto-Negotiation status = Complete, Speed = 1000 Mbps (if the connected NIC card is configured for 1000 Mbps. Else, it should show 100 Mbps or 10 Mbps depending on the NIC card’s speed)

  **Note:** there is no need to do any Interface settings for 10G ports.

  - Verify that the Link Status is UP on Port 1, that is, the Function Tree should display Port 1 with green LED link status (refer to figure). If the LED shows red, then link is down. If the link status is not UP, refer to troubleshooting steps explained in PacketExpert™ 10G Quick Install Guide.

  **Note:** ExpertSAM™ can only be conducted on Port 1

Step 5: Check ExpertSAM Service and Test Configuration settings and start test

- On Function Tree, under Test Config, double click and invoke Services Selection. Click on Check All button, and verify that all 16 services are selected, as shown in the figure.
On the Function Tree, double click and invoke Test Selection under Test Config.
Verify that both Service Config Test and Service Performance Test are checked, as seen in the figure.

Also, verify that the EIR Configuration test is checked. If not, check it.
On Function tree, click Start button and initiate the test.

Step 6: Overall Status

On the Function Tree, double click Overall Status option from Results and observe that Overall Status window is invoked on RHS.
➢ Verify that the Global Status icon is green
➢ Verify that all the Alarm status are green indicating no error status.
➢ While the test is running, user can verify the test type, Stream No., and CIR Step No., as shown in the figure.

Wait till the Overall Status icon greys out, as shown in the figure. This means that test is done.

Note: It may take up to 5 minutes for the test to finish.

Verify:
➢ Global Verdict is displayed, after completion of the test, and it shows PASS
➢ Verify that all the Alarm status are green indicating no error status.
Step 7: Check Service Configuration Results – Overview and Details

- On the Function Tree, double click Overview option under Service Configuration Results and observe that Overview is invoked on RHS.
  - Verify the active Service Name (up arrow indicates active service), current step (CIR or EIR) and Max IR for currently running service
  - For each Service, verify the verdict is passed (✓)

- On the Function Tree, double-click and invoke Details under Service Configuration Results
  - Check that the verdict of each step (CIR and EIR) is reported and shows PASS
  - Check the verdict for each service by selecting the service from the Service drop down.

Step 8: Check Service Performance Test Results

- On the Function Tree, double click Service Performance Results option to invoke the results window on RHS pane.
- Verify the Test Time, which indicates the Performance test completed within the configured test duration (around 1 minute).
- Verify that the verdict for each service is given, and it shows PASS as shown in the figure below.