It is assumed that the GL's T1E1 Hardware, Software, and License installations are already performed by referring to the respective T1E1 hardware Quick Installation Guide (for example, T1E1-Dual-USB-tProbe-Analyzer-Quick-Install-Guide.pdf).

T1E1 Fax Simulator is available as an optional software (XXFT0) with the GL's T1/E1 Hardware Applications. It also requires one of the following licenses.

- *XXFT2 – 2 Fax ports licenses*
- *XXFT3 – 8 Fax ports licenses*
- *XXFT4 – 30 Fax ports licenses*
- *XXFT5 – 60 Fax ports licenses*
- *XXFT6 – 120 Fax ports licenses*

*From the installation directory **C:\Program Files\GL Communications Inc\GL Hardware License Installer**, double-click on **T1E1AppList.exe** and observe that Fax licenses are updated in the application.*

<u>*Note:*</u> *Proceed to the verification steps below after successfully installing the T1E1 hardware, software, and verifying the required T1E1 hardware licenses (for example, PTA001, PEA001 applicable for tProbe™ T1E1 Analyzer).*

Verification

The below example depicts invoking T1E1 application, starting of WCS Server, connecting to the server through WCS Client, and executing fax commands available in the installation directory to verify proper working of Fax Simulator.

- After successful installation of T1E1 hardware such as, **tProbe**, **Portable USB**, **Universal PCI Board**, **Dual PCIe Express T1E1 Boards**, and **Octal / Quad T1E1 PCIe Express Board**. Cross-connect **Port #1** and **Port #2** of the Hardware unit back-to-back with a **RJ-48C** T1 E1 Crossover Cable.

RJ48c Loopback Cable

- Double-click on the T1/E1 application short-cut icon created on the desktop. Ensure that application is invoked without any errors. In this example, **tProbe™ T1** application is used to run fax commands.

- On the **Card Setting** dialog, for **Port #1**, set the Framing option as **ESF (193E) for T1** and **CCS for E1**, Loopback option as **No Loopback,** set the **Termination** as **Terminate**, and the clock as **Internal**. Refer to the below figures.

- Now, click on **Set all Cards as selected** option to apply the same card settings on all available ports.

Card Settings (T1)

Port	Framing	Loopback	Termination	Clock	B8ZS	Cross-port	
1	ESF (193E)	No Loopback	Terminate	Internal	On	Normal	Set all cards as selected
2	ESF (193E)	No Loopback	Terminate	Internal	On	Normal	<- Double-click to change values

Card Settings (E1)

Port	Framing	Loopback	Termination	Clock	Cross-port	
1	CCS	No Loopback	Terminate	Internal	Normal	Set all cards as selected
2	CCS	No Loopback	Terminate	Internal	Normal	<- Double-click to change values

- Verify the **Sync and Alarm Status** between the ports are indicated in **Green** ✔ in **T1/E1 Alarms** pane. Click **Yellow Reset** button to reset the alarms.

- On the T1E1 application main GUI, select **Special Applications → Windows Client Server (WCS) → WCS Server**. This will popup **Start GL Server** window as shown in the below figure.

  ➢ Set the Listen Port to **17080** for **T1** or **17090** for **E1**.

  ➢ Under **Messaging**, check **Send / Receive Binary Messages** option.

  ➢ Under **Version**, check **Send / Receive Version 4 Messages** option.
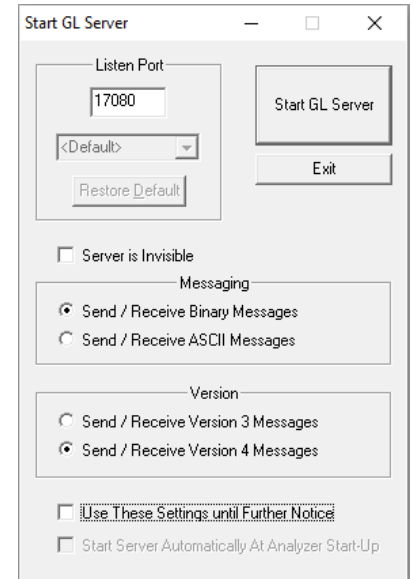
- Click on **Start GL Server** to star the server.

- From the tProbe™ analyzer main window, select **Special Applications → Windows Client Server (WCS) → WCS Client**. This will invoke GL Client window.

- On the **GL Client** window, select **Connect → Connect** or click on the 🔗 icon, this will popup connect window, set the Listen Port to **17080** for **T1** or **17090** for **E1** and ensure that proper Listen Port, Messaging and Versions are selected as discussed in the previous steps. Click on **OK**.

  ➢ Observe that **GL Client** window will display the message as **Connected to GL Server on 'hostname'**.

  ➢ Select **Script → Open**, navigate to the installation directory i.e. **C:\Program Files (x86)\GL Communications Inc\tProbe T1(E1) Analyzer\WinClientServer\FaxSimulator**, select **FAX_Simulator_T1(E1).gls** script and click on **Open**. This will load the commands from the selected ***.gls** file into the bottom pane of the **GL Client** window.
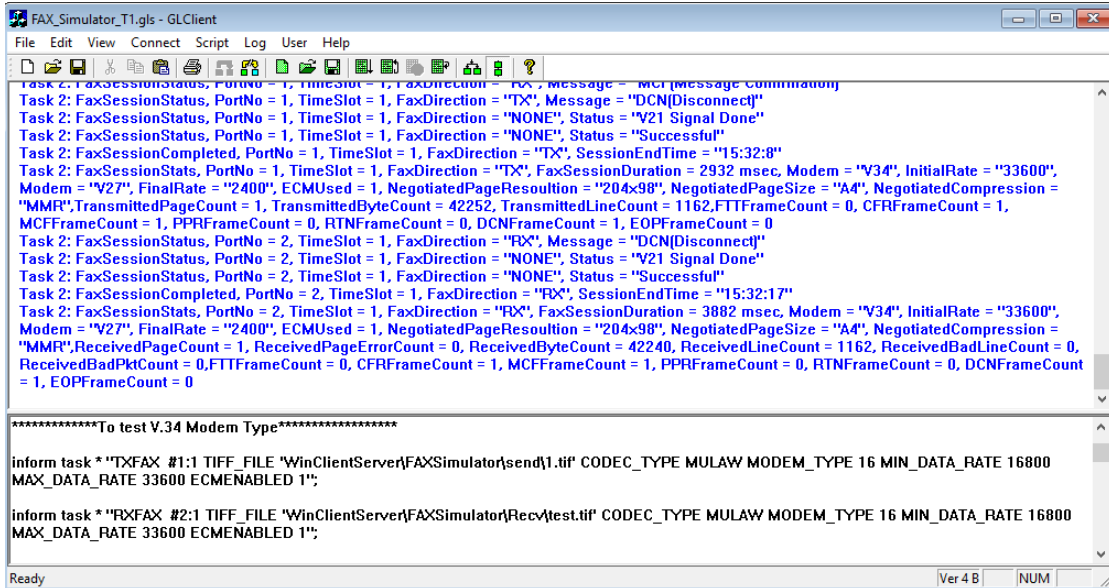
> 📋 **Note:**
>
> For 64-bit application, **FAX_Simulator_T1(E1).gls** file will be available in the following path: **C:\Program Files\GL Communications Inc\tProbe T1(E1) Analyzer\WinClientServer\FaxSimulator**

  ➢ From the bottom pane, place the cursor on the command line **run task "FaxSimulatorT1(E1):StartFaxSim";** and press **F8** on the keyboard or click on **Step Script** 📇 icon on the **GL Client** window to run the task commands. Observe that **Task** status is displayed as started (for example, **Task 1: Task 1 started**) in the **GL Client** window.

  ➢ Similarly, execute the command line `inform task * "START".`

  ➢ Now execute **RXFAX** script for V.34 Modem Type from **FAX_Simulator_T1(E1).gls** script. Before executing the command ensure that proper name is specified for the **.tif** file. In this example, we have specified as **test.tif**. refer to the below command.

```
inform task * "RXFAX #2:1 TIFF_FILE
'WinClientServer\FAXSimulator\Recv\test.tif' CODEC_TYPE MULAW MODEM_TYPE 16
MIN_DATA_RATE 16800 MAX_DATA_RATE 33600 ECMENABLED 1";
```

➢ Similarly, execute **TXFAX** script for V.34 Modem Type. Refer to the below command.

```
inform task * "TXFAX #1:1 TIFF_FILE 'WinClientServer\FAXSimulator\send\1.tif'
CODEC_TYPE MULAW MODEM_TYPE 16 MIN_DATA_RATE 16800 MAX_DATA_RATE 33600
ECMENABLED 1";
```


➢ Observe that **test.tif** image file is received in the following path **C:\Program Files (x86)\GL Communications Inc\tProbe T1(E1) Analyzer\WinClientServer\FaxSimulator\Recv**.

> 📋 **Note:**
>
> For 64-bit application **tiff image** will be created in the following path **C:\Program Files\ GL Communications Inc\tProbe T1(E1) Analyzer\WinClientServer\FaxSimulator\Recv**

Troubleshoot

If the fax transmission and reception is not happening properly then, troubleshoot with the following steps:

• Check if the analyzer software invokes with the following alarm errors then, ensure that T1E1 Crossover cables are properly plugged-in.

• Check if the Card settings for **Termination** is set to **Terminate** mode for all the ports and click on Reset button to get the sync on both the ports.

• Check if the **Start GL Settings** is selected with proper **Listener Port**, **Binary Message** and **Version 4 Message** type.

• Check if the GL Client is connected to the server properly.