

It is assumed that the T1 E1 Analyzer Hardware, Software and License installations are already performed referring to the purchased Hardware Installation Guide.

### **Optional License Installation**

- Execute GLHWLicenseInstaller.exe from the USB Installation Stick to install hardware licenses.
- Follow the onscreen instructions and complete the installation.
- It is recommended to reboot the system after the software installation. If you had problems with installation so far, refer to T1 E1 tProbe Hardware Quick Install Guide (or) contact GL Communication for assistance.
- You can verify if the required licenses are installed. Navigate to C:\Program Files\GL Communications Inc\GLDONGLE directory, execute appl\_list.exe and confirm the following licenses:
  - > PEA624 (MAPS FXO FXS Emulator for E1 tProbe)
  - > PTA624 (MAPS FXO FXS Emulator for T1 tProbe)

#### MAPS<sup>™</sup> FXO FXS CAMA Monitoring Verification

For functional verification, one instance (PC #2) of MAPS<sup>TM</sup> FXO FXS application is configured in loopback mode to simulate traffic scenario and another instance (PC #1) of MAPS<sup>TM</sup> FXO FXS application is configured to monitor FXO line.

# <u>Connect RJ11 cable to FXO and FXS ports of tProbe<sup>TM</sup> device #2 into RJ11 splitter and connect RJ11 cable from the splitter to the FXS port of tProbe<sup>TM</sup> device #1. Refer to the below figure.</u>



- NOW connect **tProbe<sup>™</sup>** unit of PC#1 and PC#2 to power adapter and AC power.
- Then connect the tProbe™ unit to USB connector on PC#1 and PC#2 using the USB cable provided with the device.
- The tProbe<sup>™</sup> device is recognized on both the PCs and the hardware device driver is installed at this point.



• Double-click on the **T1 E1 Analyzer** shortcut icon Analyzer double created on the desktop on PC #1 and PC #2 (or) from the installation directory, click on **UsbNGT1(E1).exe** and launch T1 E1 Analyzer application.

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

• On both the PCs, from T1/E1 Analyzer main window, invoke the WCS Server: Special Applications → Windows Client Server (WCS) → WCS Server.



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Start GL Server

- Configure WCS as follows -
  - Listen Port = 17090 (for E1 systems); 17080 (for T1 systems)
  - $\blacktriangleright$  Messaging = Binary
  - $\blacktriangleright$  Version = 4
  - > Click on Start GL Server button.

Listen Port	Start GL Server Exit						
Server is Invisible							
Messa	aging						
Send / Receive Binar	ry Messages						
C Send / Receive ASCII Messages							
Vers	ion						
C Send / Receive Versi	ion 3 Messages						
Send / Receive Version 4 Messages							
Use These Settings u	ntil Further Notice cally At Analyzer Start-Up						

## CAMA FXO Call Monitoring (PC#1)

- From T1 E1 Analyzer main window, from Special Applications menu → select Protocol Emulation → MAPS<sup>TM</sup> FXOFXS Emulator.
- By default, Testbed Setup widow is displayed. Click *intervention* and select **'FxoCamaMonitor'** and verify the following parameters default values:
  - $\succ$  FXO  $\rightarrow$  Termination = USA
  - FXO Multi Tone Detection File = northamerica.mtd
  - End User Configuration = usa.xml
  - ➢ Graph = Enable
- Start the test bed setup
- From MAPS<sup>™</sup> main GUI, click Call Generation icon and invoke the call generation window.
- Click *c* and select **CAMAMonitoring** file in the **Open Configuration** window. Click **OK**.
- Click yellow Start button to initiate the call sessions.
- Click **Reports** → **User defined Graphics** to monitor the FXO call once the call is placed in PC #2.

MAPS (Message Automation Protocol Simulation) (F	XOFXS) - [Testbed Setup - Fxo(							
Configurations Emulator Reports Editor Debute	ug Tools <u>W</u> indows <u>H</u> elp							
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Config	Value							
Configurations								
FXO FXS Line Parameters								
- FXO								
- Termination	USA							
<ul> <li>Flash Duration Min in msec</li> </ul>	500							
<ul> <li>Flash Duration Max in msec</li> </ul>	800							
<ul> <li>Wink Duration Min in msec</li> </ul>	100							
<ul> <li>Wink Duration Max in msec</li> </ul>	350							
Voltage Criteria								
<ul> <li>Idle Voltage Min</li> </ul>	-47.00							
<ul> <li>Idle Voltage Max</li> </ul>	-40.00							
<ul> <li>Originating Side Offhook Min</li> </ul>	-26.00							
<ul> <li>Originating Side Offhook Max</li> </ul>	-18.00							
<ul> <li>Terminating Side Offhook Min</li> </ul>	20.00							
<ul> <li>Terminating Side Offhook Max</li> </ul>	30.00							
<ul> <li>Originating Side Onhook Min</li> </ul>	38.00							
Originating Side Onhook Max	45.00							
- FXO FXS Tone Parameters								
FXO Multi Tone Detection File northamerica.mtd								
<ul> <li>End User Configuration</li> </ul>	usa.xml							
L Graph Enable								



# CAMA Call Simulation (PC#2)

- From T1 E1 Analyzer main window, from Special Applications menu → select Protocol Emulation → MAPS<sup>TM</sup> FXOFXS Emulator.
- By default, Testbed Setup widow is displayed. Click *m* and select 'CAMATestBed' and verify the highlighted values.
- **Start** the test bed setup
- From MAPS FXOFXS main window, select "Editor" menu → invoke Profile Editor window:
  - Click and select CAMA profile. Verify the following parameter default values:
    - FXO Card Number = 1 FXS Card Number = 2
    - Rx Timeslots = 1
    - Tx Timeslots = 5
    - Termination = PSAP/Selective Router as required. In this example, we have selected "PSAP".
- Click **Save** button.

Q.	<u>C</u> or	nfig	urations E <u>m</u> ulator <u>R</u> eports <u>E</u> ditor <u>D</u>	ebug Tools	<u>W</u> indow	s <u>F</u>	<u>l</u> elp		
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Co	nfig			Value			^	🔽 Ena	ble
Ξ	Со	nfig	urations						
	-=	FX	O FXS Line Parameters						
		-	Enable PCM16 Encoding	Disable					
		-	Sample Rate	8 kbps					
		-=	FXO						
			<ul> <li>In Gain in dB</li> </ul>	0.00					
			<ul> <li>Out Gain in dB</li> </ul>	0.00					
			<ul> <li>Termination</li> </ul>	USA					
			<ul> <li>Low Current Trigger in ma</li> </ul>	5.00					
			<ul> <li>High Current Trigger in ma</li> </ul>	10.00					
			<ul> <li>Low Voltage Trigger in volts</li> </ul>	-20.00					
			<ul> <li>High Voltage Trigger in volts</li> </ul>	-5.00					
	'	-	FXS						
			<ul> <li>In Gain 0 dB to 6 dB</li> </ul>	0.00					
			<ul> <li>Out Gain 0 dB to 6 dB</li> </ul>	0.00					
			<ul> <li>Termination</li> </ul>	600					
			<ul> <li>Polarity</li> </ul>	Reverse(Ring-	·Tip)				
			<ul> <li>Battery Voltage in volts</li> </ul>	48.00					
			Loop Current Disconnect Duration i	200					
	-=	Wi	nk Parameters						
L			Wink Time	250					
		Ho	ok Flash Parameters						
	'		Flash Period in msec	500					
	- 🖃	Rin	iging Parameters						
		-	Ring on duration in msec	2000					
	'		Ring off duration in msec	4000					
	- 🖃	Dia	I Tone Parameters						
		-	Dial Tone Frequencies	350					
		L	Dial Tone Duration in msec	20000					
	- [	En	d User Configuration	CAMA.xml					

MAPS (Message Automation Protocol Simulation) (FXOFXS) - [Testbed Setup - CAMATestBed]

- From MAPS<sup>™</sup> main GUI, click <sup>™</sup> Call Generation icon and invoke the call generation window.
- Click *m* and select CAMA Simulation file in the Open Configuration window. Click OK.
- On FXO CAMA Terminating.gls row, double-click under Total Iterations and enter "\*" to make iterations infinite.
- Click yellow Start button on FXO CAMA Terminating.gls file to initiate the Terminating call sessions first.
- Once the Status is displayed as "FXS Session Started" on FXO CAMA Terminating.gls file. Click on **Start** the yellow
   Start button on FXO CAMA Originating.gls file.



• Wait till the calls are completed and verify the Message

Sequence flow for on the 'FXO CAMA Terminating.gls' call instance in the GUI.

Kall Generation - CAMA Simulation										
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Sr No	Script Name	Profile	Call Info	Script Execution	Status	Events	Events Pr	Result	Total Iterations	Completed Iteratic
1	FXD CAMA Originating.gls	FX0FXSProfile	ANI 3015551234	Stop	Call Connected	Terminate		Pass	1	
2	2 FXS CAMA Terminating.gls		ANI 3015551234	Stop	Call Connected	Terminate		Pass	Infinite	
										>
Add	Delete Insert Refresh	Start Sta	rt All Stop	Stop All 🔻 A	bort Abort All					
Save Column Width View Latest										
MAPS DUT Find										
Seize 02:12:41 482 3186										
Wink (**252 msec) 02:12:42:90.4663										
KP 3015551234 ST										
02:12:42:501.58										
Ringback Tone 02:12:46.397.9646										
Offhook 03.13.50.030.2773										
Scripts Message Sequence Event Config Script Flow										

• Observe the User Defined Graph on PC #1 (CAMA FXO Call Monitoring). Refer to the below figure.

