

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 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:
 - ➤ XX649 (MAPSTM SS7 Emulator)

Note: The **XX** in the Item No. refers to the hardware platform, listed at the bottom of the Buyer's Guide, which the software will be running on. Therefore, XX can either be ETA or EEA (Octal/Quad Boards), PTA or PEA (tProbe Units), UTA or UEA (USB Units), HUT or HUE (Universal Cards), and HDT or HDE (HD cards) depending upon the hardware.

MAPS[™] SS7 Application Verification

For functional verification, 2 instances of MAPSTM SS7 application can be configured on a single PC as source and destination SSP (Signaling Switching Point) nodes.

Cross-connect T1/E1 Port #1 and Port #2 of the Hardware unit back-to-back using RJ48c loopback cable.



• Click on the **T1/E1 Analyzer** icon diverting or dispersion created on the desktop (or) from the installation directory, click on **UsbNGT1.exe** or **UsbNGE1.exe** and launch T1/E1 Analyzer application.

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

- Verify the following Interface settings in the T1/E1 main GUI
 - For T1 Analyzer, configure Port #1 and Port #2 with the following
 - Framing = ESF, Loopback = No Loopback, Termination = Terminate, Clock = Internal, Cross Port = Normal
 - For E1 Analyzer, configure Port #1 and Port #2 with the following
 - Framing = CCS, Loopback = No Loopback, Termination = Terminate, Clock = Internal, Cross Port = Normal
- 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.





MAPS™ SS7 Quick Verification Guide

Start GL Serve

Exit

Start GL Server

Listen Por

Restore Default

Server is Invisible

•

-Messaging

Send / Receive Binary Messages
 Send / Receive ASCII Messages
 Vertion
 Send / Receive Vertion 3 Messages
 Send / Receive Vertion 4 Messages
 Use These Settings until Further Notice
 Start Server Automatically At Analyzer Start-U

17080

<Default>

- From T1/E1 Analyzer main window, invoke the WCS Server: Special Applications > Windows Client Server (WCS) > WCS Server. Configure WCS as follows -
 - Listen Port = 17080 (for T1 systems); 17090 (for E1 systems)
 - Messaging = Binary
 - ➤ Version = 4
- Click on **Start GL Server** button. Minimize the window.

MAPS[™] SS7 (GUI) on Card2

- This instance of MAPS[™] is configured for **Call Reception**
- From T1/E1 Analyzer main window, from Special Applications menu > select Protocol Emulation > MAPS[™] SS7
 - While invoking this instance of MAPS[™] SS7, choose the following in the **Protocol Selection** window
 - Protocol Standard = ISUP
 - Protocol Version = ITU
 - \succ Node = SSP
 - Click Ok

Protocol Selection	×
Protocol Standard	ISUP 🔽
Protocol Version	ITU 💌
Node	SSP 💌
Transport	_
	OK

- By default, <u>Testbed Setup</u> window is displayed. Click *in and select Sig-Card2_B-Port_2*. Verify the default parameter values as listed below:
 - **Exchange Type** = Non Control
 - CIC to Circuit Mapping = Timeslot Based
 - **SSP Point Code** = 2.2.2
 - > Adjacent Destination Point Code = 1.1.1
 - **Signaling Port** = 2
 - Signaling Timeslot = 31 (for E1); 23 (for T1)
 - **Destination Point Code** = 1.1.1
 - **Circuit Group 1 Port Number** = 2
 - Routing Destination Point Code = 1.1.1

Note: In **Testbed**, User can enter **OPC** and **DPC** Point Codes in the **Dotted Decimal** or equivalent **Decimal/Hexadecimal** format.

For Example: If we are using ITU Standard the Equavalent Point code for (Dotted Decimal)1.1.1, can be written as (Decimal) 2057 or in (Hexadecimal) 0X809 (0X prefix is mandatory for Hex format).

Configurations Emulator Reports Editor Debu	ig Tools <u>W</u> indows <u>H</u> elp
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Config	Value
Signalling Switching Point	
 Exchange Type 	Non Control
 CIC to Circuit Mapping 	Timeslot Based
 CIC Handling Method for CIC Based Mapping 	Configured in Profile
- SSP	1
L SSP 1	
 SSP Point Code 	2.2.2
 Network Indicator 	National
Link Set Parameters	1
Link Set Parameters 1	
 Adjacent Destination Point Code 	1.1.1
 Link Set Id 	1
Link	1
Link 1	
 Signaling Port 	
 Signaling Timeslot 	23
 SignalingSubchannel 	18
└── Signaling Link Selection	1
- Destination SSP	1
4∃ Destination SSP 1	
Destination Point Code	1.1.1
Circuit Group	1
Circuit Group 1	-
- Port Number	1
	1
Parter 1	1
Hein Koutes I	
RoutingLinkSet	111
 Routing Destination Point Code 	1.1.1

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- ▶ From MAPSTM SS7 main window, select Configuration > invoke Incoming Call Handler Configuration window
- ▶ Verify that the Isup_Call.gls script is loaded against the Initial Address message. Close the window

- 🔒 🖪			
Message Name	Script Name	Scripts	
Signalling Link Test Message	SLTM.gls	Isup_Call.gls	Sequence
Initial Address	Isup_Call.gls		C D 1
Address Complete	Rx_IdleStateMsgHandler.gls		C Random
Connect	Rx_IdleStateMsgHandler.gls		
Answer	Rx_IdleStateMsgHandler.gls		
Suspend	Rx_IdleStateMsgHandler.gls		
Resume	Rx_IdleStateMsgHandler.gls		
Call Progress	Rx_IdleStateMsgHandler.gls		
Release	Rx_CIC_Management.gls		
Reset Circuit	Rx_CIC_Management.gls		
Continuity Check Request	Rx_CIC_Management.gls		
Blocking	Rx_CIC_Management.gls		
Unblocking	Rx_CIC_Management.gls		
Circuit Group Reset	Rx_CIC_Management.gls		U.s. 1
Circuit Group Blocking	Rx_CIC_Management.gls		OP
Circuit Group Unblocking	Rx_CIC_Management.gls		Down
Release Complete	Rx_CIC_Management.gls		Down
Liser Part Test	By CIC Management ds		

- From MAPS[™] SS7 main window, select "Editor" menu -> invoke Profile Editor window and verify the following default parameter values:
 - Click and load "ISUP_Profiles" file. Scroll down the left pane, and select, Card2TS01 profile from the left pane. Set Card number = 2, Timeslot = 1, OPC = 2.2.2, DPC = 1.1.1
 - parameter values. Click 🔚 Save button.
 - In the same Profile Editor window, click and select "TrafficProfile" file. Scroll down the left pane and select Card2TS01 profile. Set Traffic Type to AutoTraffic-File and Traffic Direction for AutoTraffic to Tx-Rx. Click Save button and Close the window

#	Profiles (Edit-F2)	^	Cor	nfig		Value				
27	Card2TS01			Card2TS01						
28	Card2TS02			-🗆 CI	C Assignment					
				-	Card Number					
29	Card2TS03			-	Timeslot					
30	Card2TS04			-	OPC	2.2.2				
31	Card2TS05			-	DPC	1.1.1				
				Ĺ	User Provided CIC	33				
32	Card2TS06				ID Darameters					

MAPS[™] SS7 (GUI) on Card1

- This instance of MAPS[™] SS7 is configured for **Call Generation**
- From T1/E1 Analyzer main window, from Special Applications menu > select Protocol Emulation > MAPSTM SS7
- While invoking MAPS[™] SS7, choose the following in the Protocol Selection window -
 - > Protocol Standard = ISUP
 - > Protocol Version = ITU
 - \succ Node = SSP
 - Click Ok
- By default, <u>Testbed Setup</u> window is displayed, click *m* and select **Sig-Card1_B-Port_1** and check for the configuration settings as below:
 - **Exchange Type** = Control
 - CIC to Circuit Mapping = Timeslot Based
 - SSP Point Code = 1.1.1
 - Adjacent Destination Point Code = 2.2.2
 - Signaling Port = 1
 - Signaling Timeslot = 31 (for E1); 23 (for T1)
 - **Destination Point Code** = 2.2.2
 - Circuit Group 1 Port Number = 1
 - **Routing Destination Point Code =** 2.2.2



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- From MAPS[™] SS7 main window, select "Editor" menu -> invoke Profile Editor window and verify the following default parameter values:
 - Click and load "ISUP_Profiles" file. Scroll down the left pane, and select, Card1TS01 profile from the left pane. Verify Card number = 1, Timeslot = 1, OPC = 1.1.1, DPC = 2.2.2

parameter default values. Click 📩 Save button.

In the same Profile Editor window, click and select "TrafficProfile" file. Scroll down the left pane, and select Card1TS01 profile. Set Traffic Type to AutoTraffic-File and

Traffic Direction for AutoTraffic to **Tx-Rx**. Click **Save** button and close the Window.



- **Start** the testbed on both the MAPSTM instances
- From MAPS[™] SS7 main window, select **Reports** menu > invoke **Link Status** window. Verify that the **Link Status** is **UP** (indicated in Green color) before placing the call.

55		Link Status	_ 🗆 💌
Device Name	Link ID	Link Status	HDLC Statistics
1	1	InService	UnderRun = 0: OverRun = 0: BadFcs = 0

- On the same MAPS[™] SS7 instance (Card1), select Emulator menu > Call Generation window
 - By default, multiple call instances loaded with Isup_Call.gls script and Card1TS** profiles respectively are displayed. Select the instance loaded with Card1TS01 profile and click on the yellow Start button.
- Wait for the call to terminate, and verify the **Message Sequence** flow at both generation and reception end.
- Select any message in the ladder diagram and observe the respective decode message on the right pane for the respective message.

MAPS (Message Automation Protocol Simulation) SSP (ISUP ITU)	- [Call Generation - C	allGenDefa	alt]			-	
Sconfigurations Emulator Reports Editor Debug Tools	findows <u>H</u> elp						- 8 ×
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🗅 🚄 🗟 💡 🛛 🔳 🛤							
Sr No Script Name Profile Call Info Script Execution	Status	Events	E Result	Total Iterati	Completed Iterations		^
1 Isup_Call.gls Card1TS01 1.1.1,2.2.2,2 Start	ISUP Cal Released	None	Pass	1	1		
2 Isup_Call.gls Card1TS02 1.1.1,2.2.2,3 Stop	File Sent	Teminat	Pass	1	0		
3 Isup_Call.gls Card1TS03 Start		None	Unknown	1	0		
4 Isup_Call.gls Card1TS04 Start		None	Unknown	1	0		
5 Isup_Call.gls Card1TS05 Start		None	Unknown	1	0		
MAPS	DUT			Find			
MAPS	DUT			Find			
Initial Address	15:34:46.028000	0000	Service India Priority Code	ator		=010	1 ISDN User . Priority
Address Complete	15:34:46.977000	0000	Sub-service f	ield		= 10	. National
Answer		0002	OPC			= 1.1.1(0	01 00C
•	15:34:47.000000	0004	Signalling Li	nk Code		= 0001	. (1)
File Transmitted :: mu-law samples\vijay.pcm	15/25/07 155000		Higher Layer	Data		= x020001	L0220010A00C
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Helease	15:35:47.042000	0007	Message Type			= 0000000	l Initial s
A Release Conclete			Mandatory Fis	ed Parane	ters	-	
-	15:35:47.615000	0008	Sotellite 1	ndicator	indicators Paralet		0 two cotel
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Scripts Message Sequence Event Config Script Flow	/						
0	Initialisation Errors	0 E	rror Events		Captured Errors	🗧 Link S	tatus Up=1 D

• Return to first instance of MAPS[™] SS7 (Card2), click [≫] icon and open **Call Reception** window. Observe that the calls are automatically received at the **Call Reception** (SSP) Window.

<u>Configurations</u> Em	ulator Report	s <u>E</u> ditor <u>D</u> ebug	Tools <u>W</u> indo	ws <u>H</u> elp							-	8
Q 🖉 🚳 🦻	8 6) 🔊 🛃 🖉	2 🗟 🗟	62.	1							
Sr No Script Name	Profile	Callinfo	Script Execu.	Status	Events	E	Results	1				
1 SLTM.gls		2.2.2,1.1.1,1	Stop	MTP3 Active	Initiate SLTM		Pass					
2 Inup_Call.gls	Card1TS01	2.2.2.1.1.1.2	Completed	ISUP Call Rele.	None		Pats					
3 Isup_Call.gls	Card1TS02	2.2.2.1.1.1.3	Completed	ISUP Call Rele.	None		Pass					
Stop Stop All	Abort Abo	rt All 🔽 Show Re	cords 🥅 Select	Active Call 🗆 A	uto Trash Trash							
Save Column	width — -	- 🔽 Show	v Latest			-						-
TUT			MAP					Find				
			PINE	>				HTP3 Layer				
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	Ac	ddress Complete					0000 Prio	rity code		- 10	00	
•					34:46.698000 0001 DPC					= 2.1	2.2(0	JOD10
Answer				E 24 46 716000	34.46.716000 0002 0PC					= 1.3	1.1(0	11
				3.34.40.710000			0004 Sign	alling Link Code		= 001	01	. (1
File Transmitted :: mu-law samples/wjay.pcm 15:35:07.15500							A1 go	er Layer Data		= 20.	20001	0220
Dahara					0005 Circ	uit Identification	Code	= 001	00001	.0		
		1100/010		5:35:47.322000			0007 Mess	age Type		= 001	00000	/1 In
	Release Complete					Hand Hat	atory Fixed Parame	ters Indicators Parameter				
				5:35:47.333000			0008 54	tellite indicator		=		.0 tu

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