# T1 E1 or J1 USB Controlled Switch

T1 E1 Switch Controller Ver: 0.004	
Select A Switch Function You Want To Control           No:         Function Description           1         Thru Mode - No Monitor           2         Line Monitor           3         Equipment Monitor           4         Line Testing with Equipment Loopback           5         Equipment Testing with Line Loopback	This setting is a non-intrusive test designed to monitor the incoming signal from the Line. Note: The primary test card should be in Recovered clock and Monitor mode.
	Device Details  Selection  Vendor ID: 0x150C  Product ID: 0x2038  Marufacture: GL Communications Inc Product Name: T1/E1 Switch Senal Number: 008777 Firmware Revision Date: 01/12/06 (mm/dd/yy)
Send User Defined Command Command (HEX) Apply To All Ports Send Command	Command Center         Command Sequence         Global Settings           Primary Port         Port 1         ▼         No:         Port 1         Byte Value         Command Delay         250 ms           1         Port 1         0x4000         ✓         Auto Send On         ✓         Function Selection           ✓         Apply Function To All 8 Ports         Send Comand         Send Comand         Send Comand
Port Status 1 0x4000 0x4000 0x4000 0x4000 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	6         7         8         □ Continuous           0x4000         0x4000         0x4000         Refresh           0         0         Power         Refresh
CL Communications Inc.	T1/E1/J1 Switch

### **Overview**

The T1 E1 J1 Switch can be used to control multiple T1 E1 lines to monitor, drop and insert, and perform intrusive and non-intrusive tests simultaneously. One can operate the switch in different modes by just changing relay settings remotely without requiring any changes to the physical connection. The T1 E1 or J1 switch device is designed to monitor and intrusively test up to eight individual T1 or E1 or J1 lines.

The switch can be remotely controlled via a USB connection. Both GUI as well as CLI control are available for controlling the switch in various modes for monitoring and diagnostic purposes.

For more information, refer to T1 E1 or J1 USB Controlled Switch webpage.

### **Main Features**

- Provides modes for Single or Dual Direction Monitoring of T1 E1 or J1 lines
- Provides modes for Intrusive Testing in either direction of T1 E1 or J1 lines
- Controlled locally of remotely
- Fail-Safe mode in the event of a power failure. Returns to a Thru Mode immediately
- Up to 8 full duplex T1, E1, and J1 lines can be supported per unit

### **Software Included**

• T1 E1 or J1 Switch Software GUI for local control from host PC

GL Communications Inc.

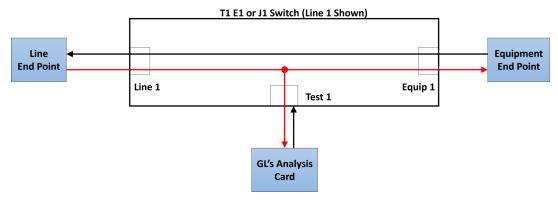
818 West Diamond Avenue - Third Floor, Gaithersburg, MD 20878, U.S.A (Web) <u>www.gl.com</u> - (V) +1-301-670-4784 (F) +1-301-670-9187 - (E-Mail) <u>info@gl.com</u>

### Working modes of T1 E1 or J1

The switch has three basic modes of operation.

### Through mode

This mode allows the signal to pass through the device by disconnecting the test access. With the test access disconnected, the test card from the line will be set inactive, and therefore the signals will pass through the switch without any monitoring.



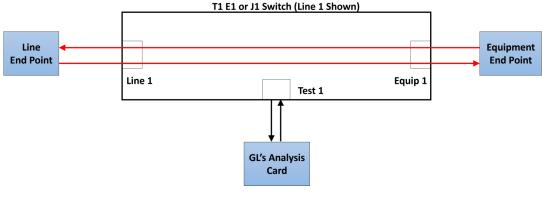
**Figure: Through Mode** 

#### Intrusive mode

This allows test access on either the line or equipment telecommunication sides. The monitor and intrusive modes have additional detailed configurations, which allow greater control of the test access.

### Software control of the switch

The switch can be controlled using either T1 E1 application or using GL's Windows client server (WCS). The T1 E1 switch software allows the user to control the switch without sending commands remotely.



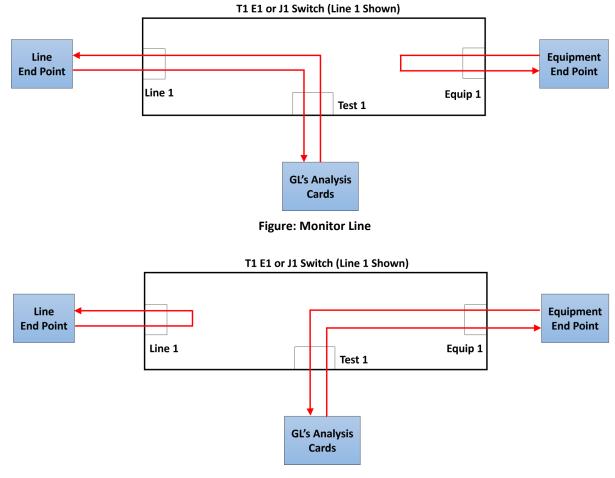
**Figure: Switch Control** 



# Working modes of T1 E1 or J1 (Contd.)

### Monitor mode

In this mode user can monitor either line or equipment telecommunication sides.



**Figure: Monitor Equipment** 



### **Other Detailed Configurations**

The monitor and intrusive modes have additional detailed configurations, which allow greater control of the test access.

### Line Testing with Keep Alive (Shared)

This allows to test intrusively in the direction of Line. The secondary test cards provides Keep Alive signals indicating the line is active.

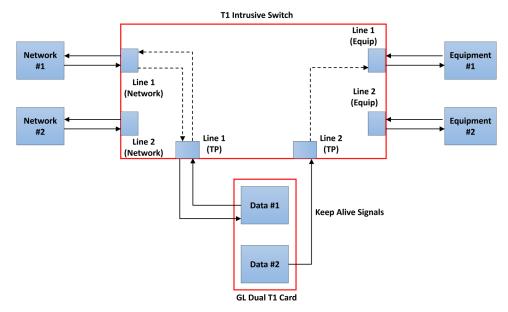
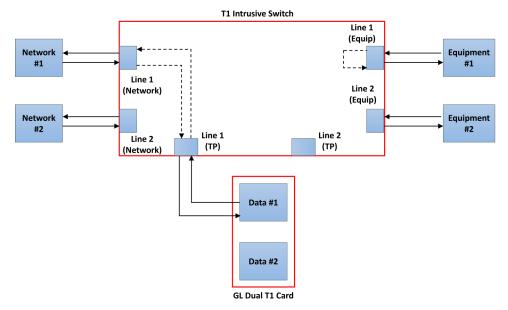


Figure: Line Testing with Keep Alive (Shared)

#### Line Testing with Equipment Loopback

This allows to test intrusively in the direction of Line. The Equipment side is looped back within the switch.



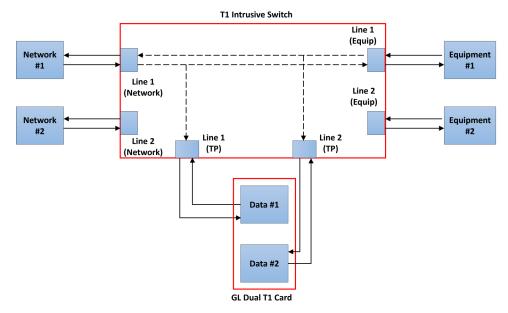
**Figure: Testing Line with Equipment Loopback** 



### **Other Detailed Configurations (Contd.)**

#### **Dual Direction Monitoring**

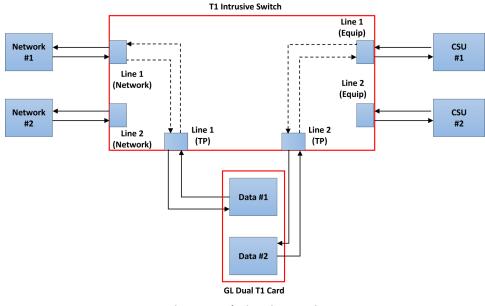
This allows to monitor the incoming signals from the Line and the Equipment non-intrusively.



#### **Figure: Monitoring Dual Direction**

#### **Dual Direction Testing**

This allows to test the incoming signals intrusively from the Line and the Equipment at the same time.



**Figure: Dual Direction Testing** 



### **Other Detailed Configurations (Contd.)**

### Monitor Line Loopback with Signal Thru

This allows to loopback the Line signal within the Switch and allow the test port to monitor. The signal from the Line is passed thru to the Equipment .

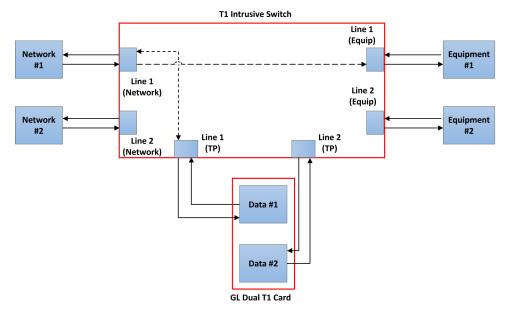


Figure: Monitoring Line Loopback with Signal Thru

#### **Drop and Insert to Equipment**

It is an intrusive test allows to drop the received signal from the Line and insert the generated signal from the test card to the Equipment.

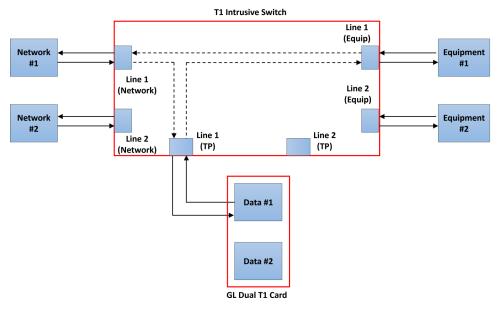


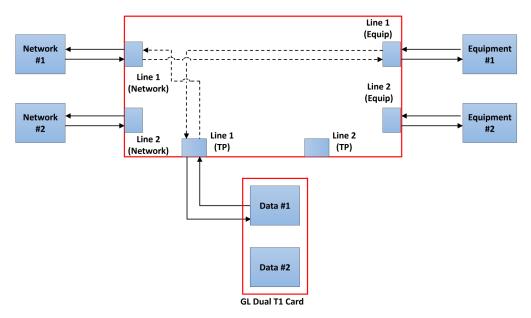
Figure: Drop and Insert to Equipment



### **Other Detailed Configurations (Contd.)**

#### **Drop and Insert to Line**

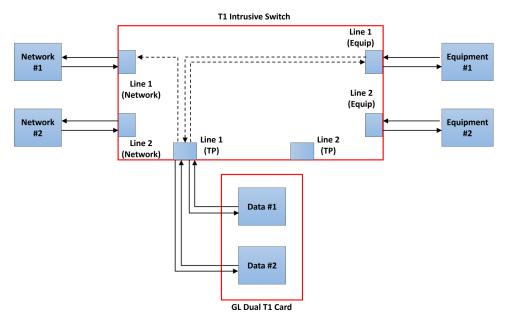
It is an intrusive test allows to drop the received signal from the Equipment and insert the generated signal from the test card to the Line.



**Figure: Monitoring Dual Direction** 

#### **Dual Cable Connection**

It is an intrusive test allows to test the Equipment/Line. The test card 2 provides Keep Alive signal towards the Line/Equipment respectively.



**Figure: Dual Direction Testing** 



## **Buyer's Guide**

Item No	Product Description
<u>SWT001</u>	T1 E1 or J1 Switch
Item No	Related Hardware
	*Specifications and features subject to change without notice.
<u>PTE001</u>	tProbe™ Dual T1 E1 Laptop Analyzer
<u>FTE001,</u> <u>ETE001</u>	Quad and Octal T1 E1 Analyzer Boards
<u>XTE001</u>	Dual Express (PCIe) T1 E1 Boards

For more information, refer to <u>T1 E1 or J1 USB Controlled Switch</u> webpage.



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