
T1 E1 J1 Switch



818 West Diamond Avenue - Third Floor, Gaithersburg, MD 20878
Phone: (301) 670-4784 Fax: (301) 670-9187 Email: info@gl.com
Website: <https://www.gl.com>

T1 E1/J1 Switch

- The T1 E1 J1 Switch provides non-intrusive failsafe monitoring and intrusive test diagnostic capability for up to 8 full duplex T1, E1, and J1 lines



Key Features

- Replaces Physical Cabling Changes
- 19" rack-mount Enclosure
- Handles 8 Full Duplex Lines
- Modes for Monitoring or Intrusive Testing
- USB Controlled
- Local or Remote Software Controls
- Fail-Safe Mode for Power Failures

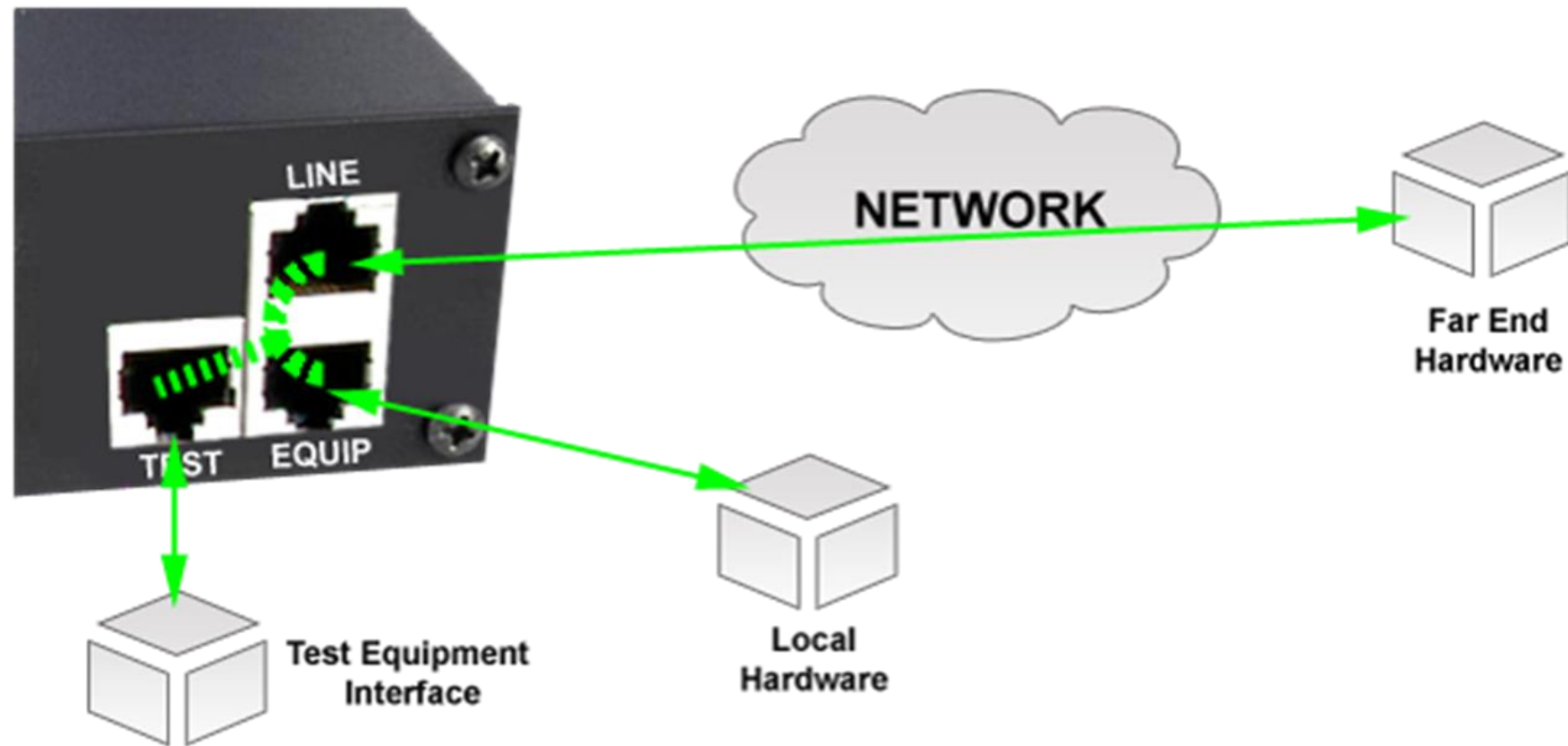
T1 E1 or J1 Switch Applications

- Automated testing environments
- Remote intrusive and non-intrusive test applications
- Monitoring and surveillance applications
- Protocol content monitoring
- Remote control switching of lines

Cable Setup

The unit provides:

- Two RJ-48c connectors for a thru-mode connection for equipment and line connections
- One RJ-48c monitor connector for monitoring both directions of a full duplex high-speed line



Specifications

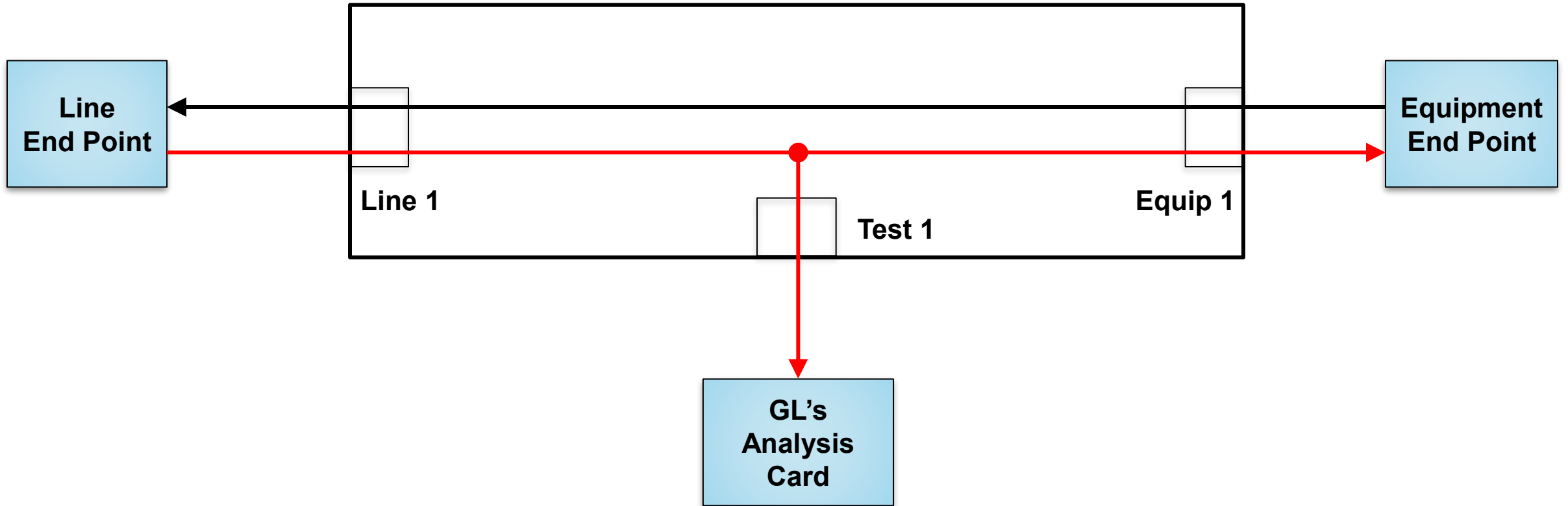
Physical Dimensions Size Weight	1U rack mount case — (L) 6" x (W) 17.67" x (H) 1.72" 5 Lbs or 2.2Kg
Physical Interfaces	<p>Front Panel</p> <ul style="list-style-type: none">• 8 green LEDs which are used to indicate monitor• 8 yellow LEDs which are used to indicate intrusive testing mode• One additional LED to indicate power <p>Rear Panel</p> <ul style="list-style-type: none">• Line• 8 RJ48c connectors, one for each port which is used to connect to the network <p>Equipment</p> <ul style="list-style-type: none">• 8 RJ48c connectors, one for each port, which is used to connect to the CSU, or other equipment installed <p>Test</p> <ul style="list-style-type: none">• 8 RJ48c connectors, one for each port which is used to connect to a test device to monitor or test T1/E1/J1 lines

Specifications (Contd.)

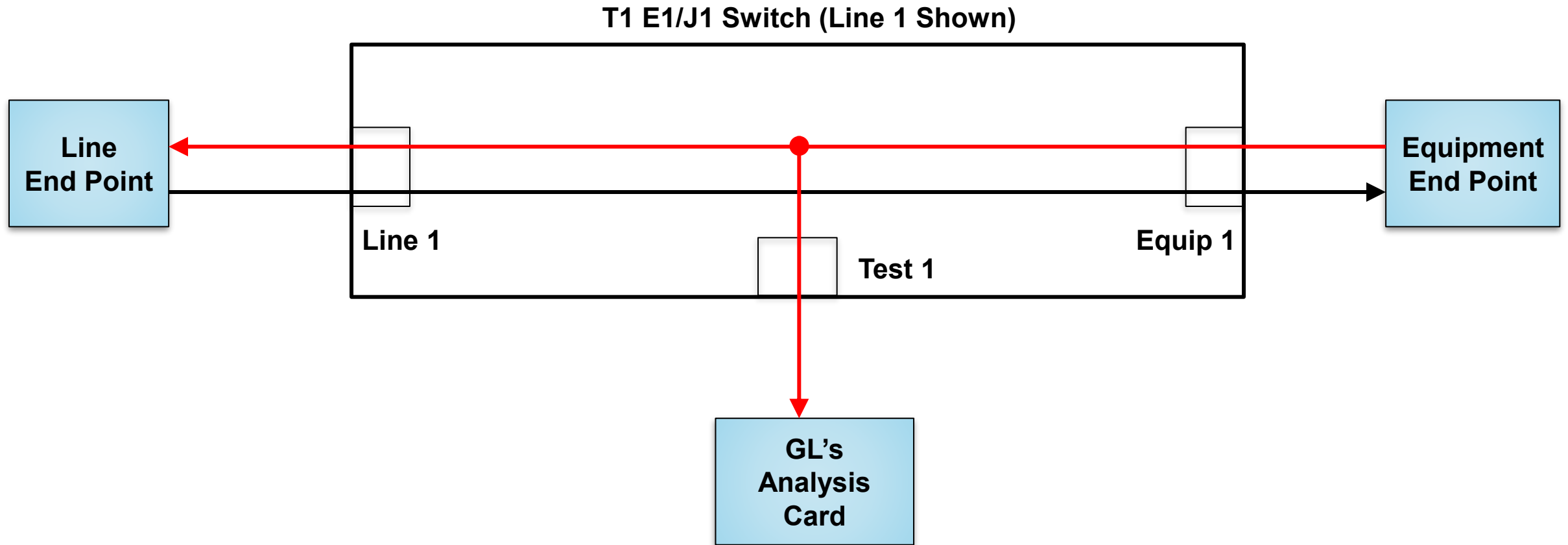
Physical Interfaces	<p>AC Power</p> <ul style="list-style-type: none">• Has an AC receptacle to accommodate a three prong AC Plug. <p>USB Connector</p> <ul style="list-style-type: none">• A TYPE B USB Connector used to interface to a USB 2.0 PC device.
Software Requirements	<ul style="list-style-type: none">• TI EI/JI Switch Software GUI• GL's Windows Client/Server (WCS) Application
Power	<ul style="list-style-type: none">• AC Power• The AC power will accept 110-240VAC at 50/60 Hz with a 5x20mm slow blow .5A fuse.• USB Power – The USB requires a 2.0 USB device connection, which will draw less than 500mA

Basic Modes Line Monitoring

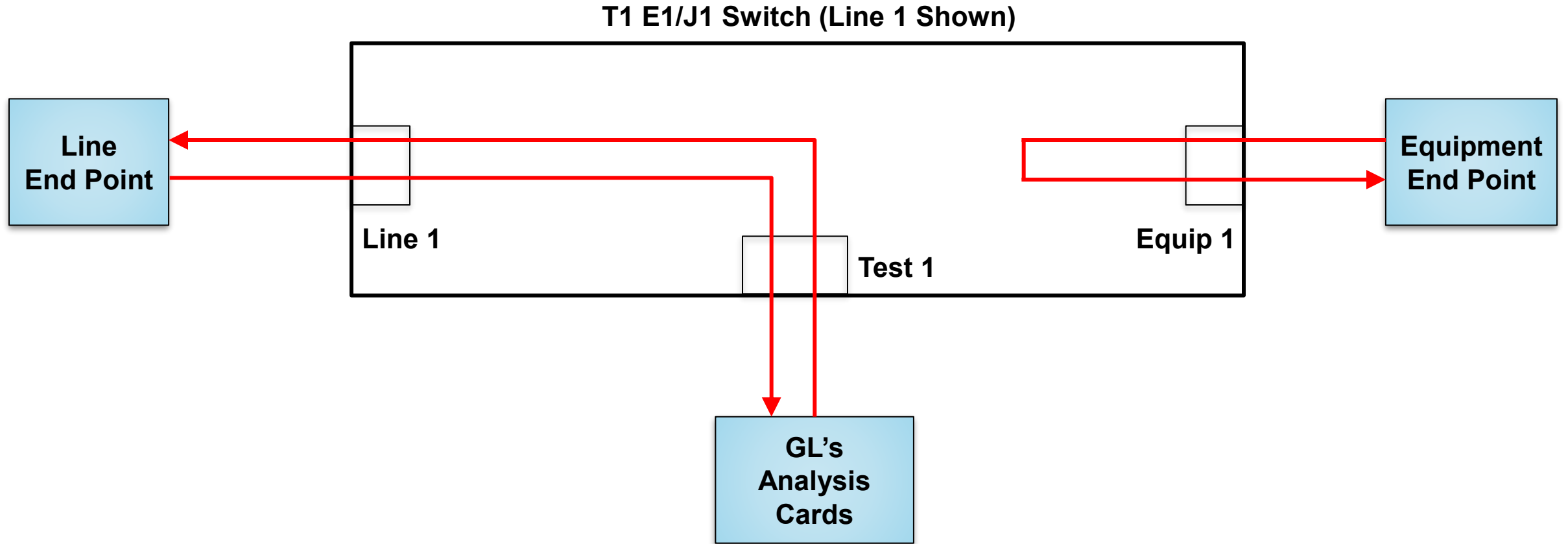
T1 E1/J1 Switch (Line 1 Shown)



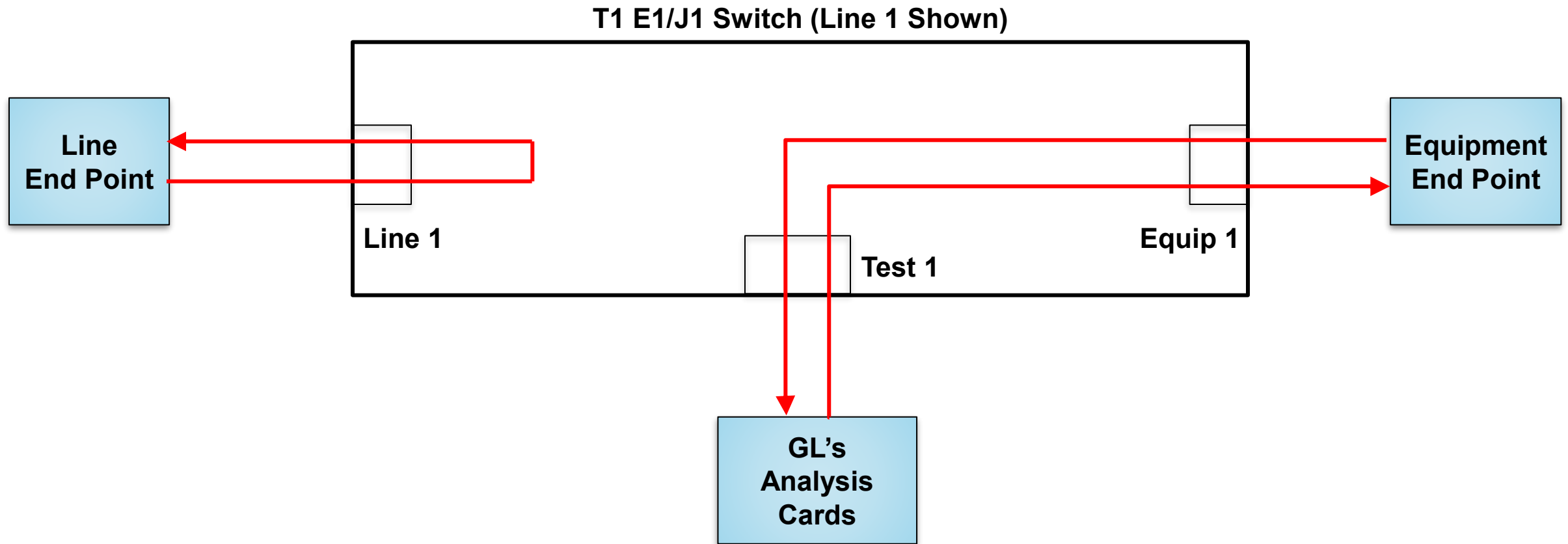
Basic Modes Equipment Monitoring



Basic Modes Line Testing (Intrusive)

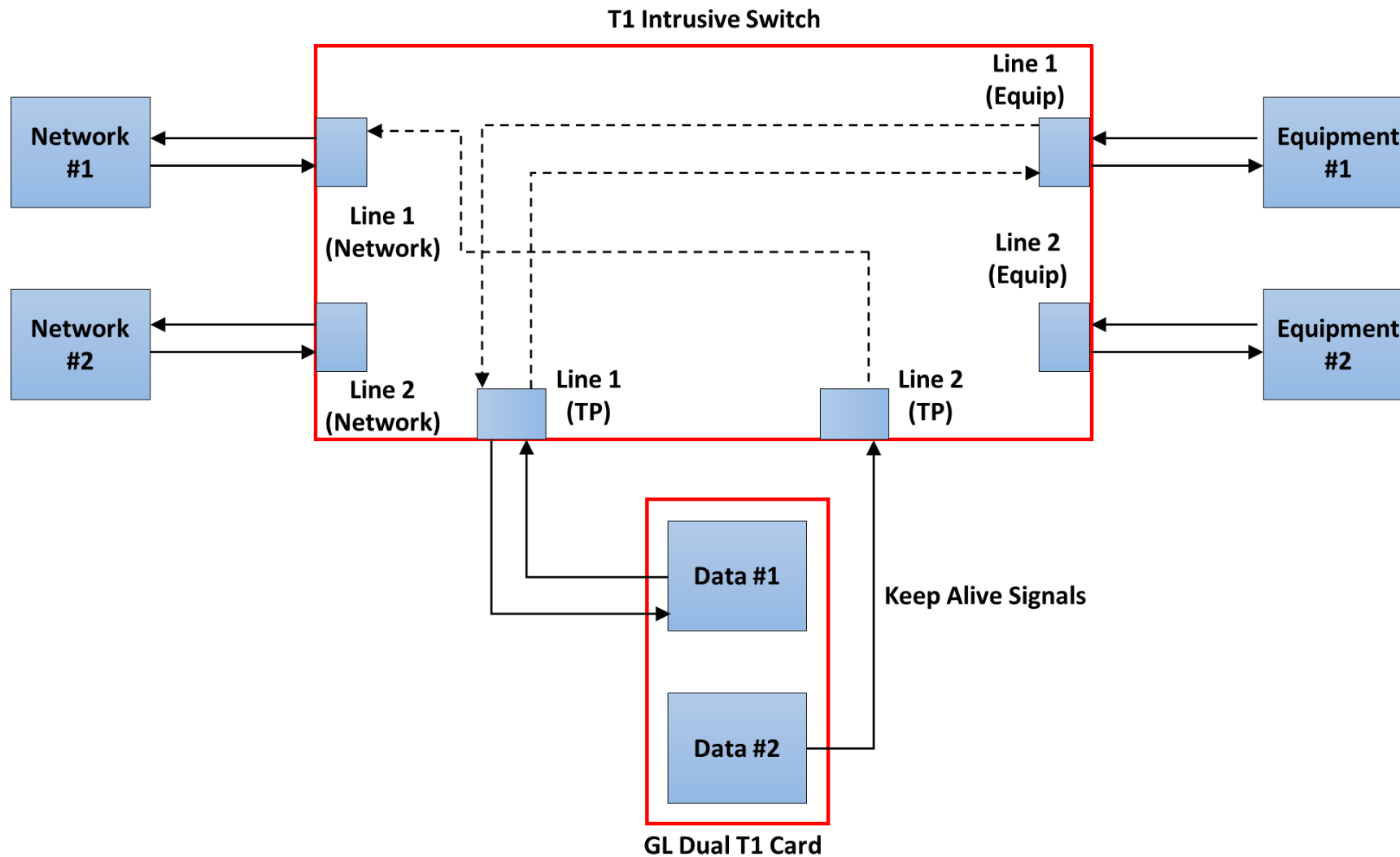


Basic Modes Equipment Testing (Intrusive)



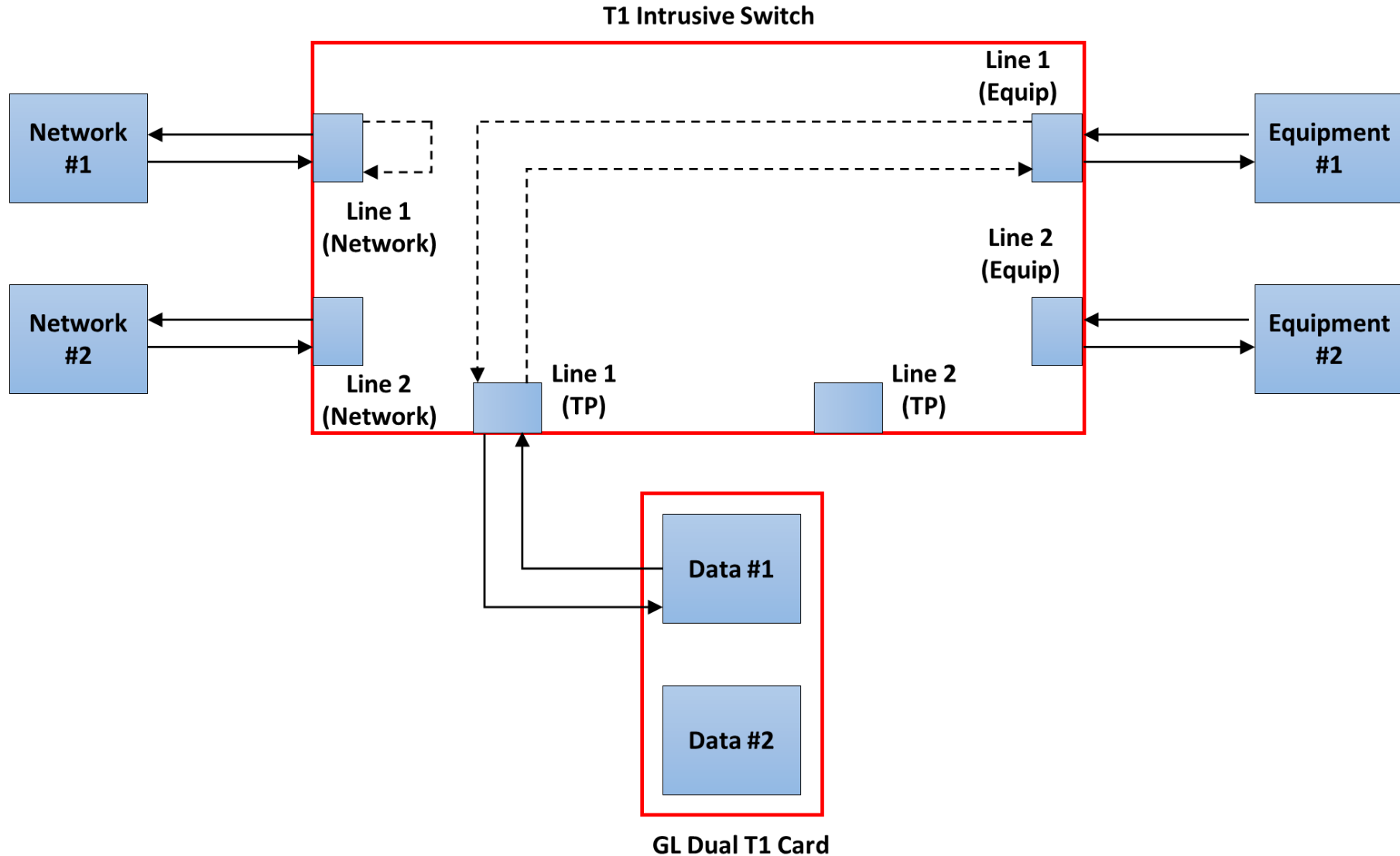
Line Testing with Keep Alive (Shared)

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



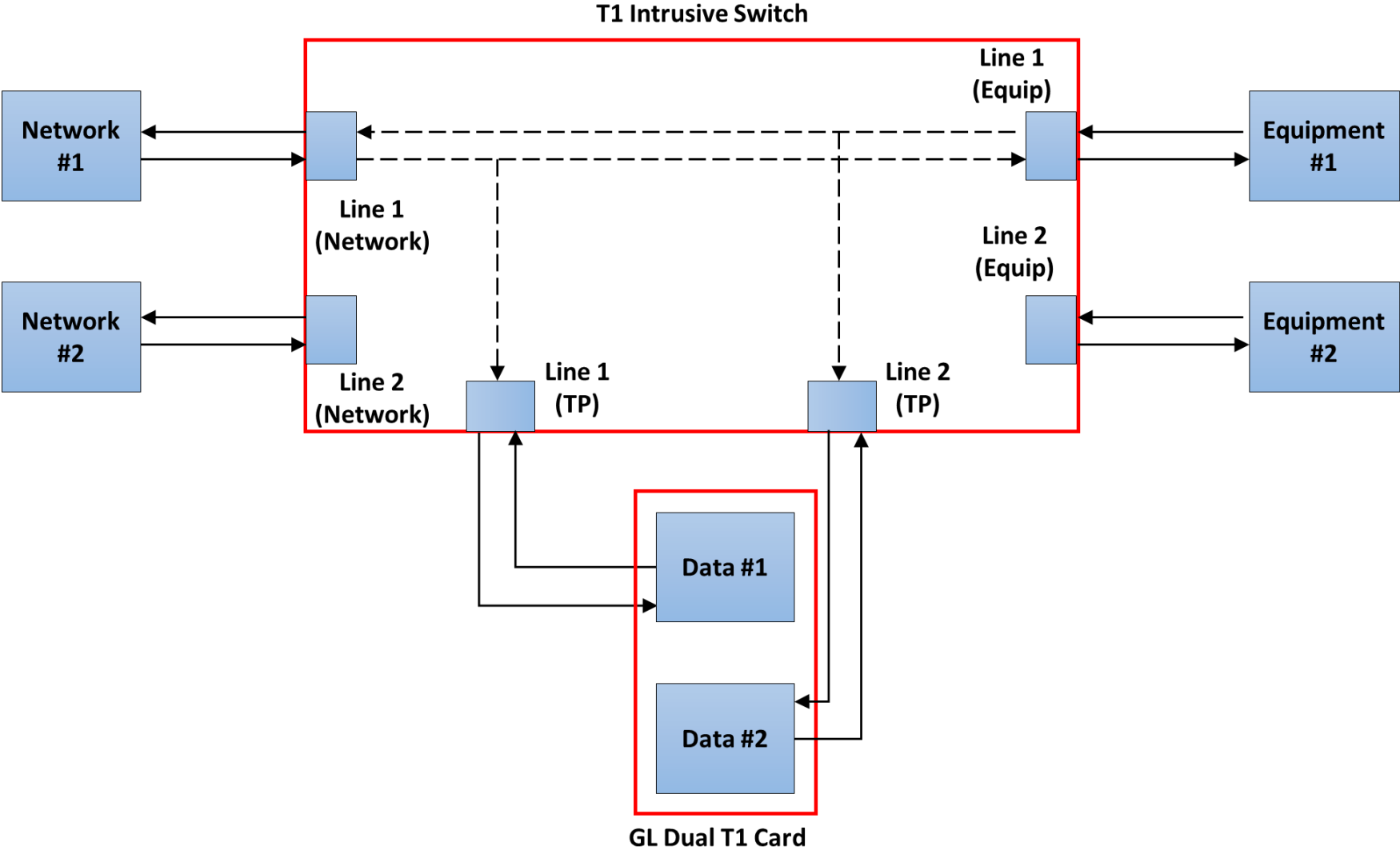
Line Testing with Equipment Loopback

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



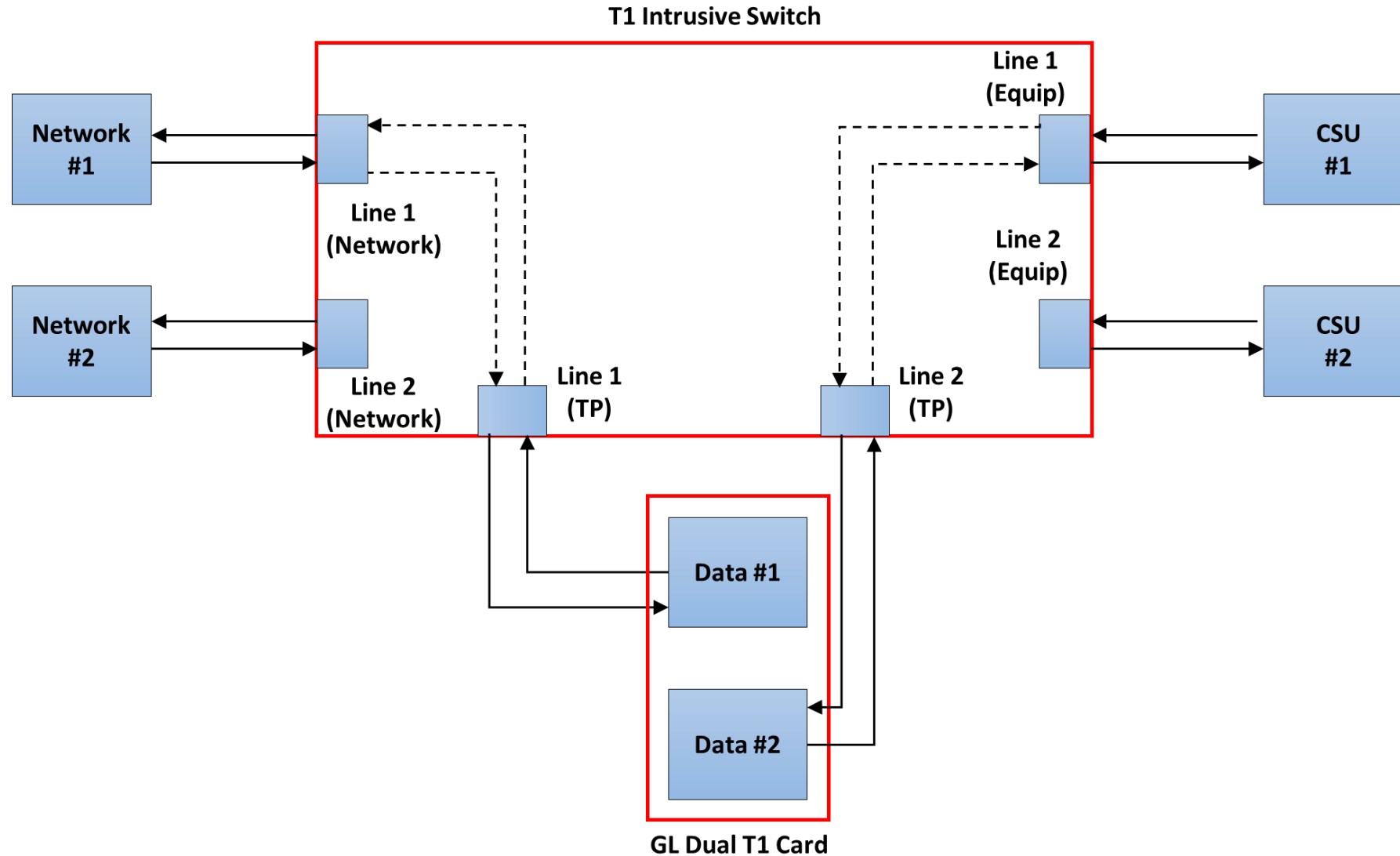
Dual Direction Monitoring

- Allows to monitor the incoming signals from the Line and the Equipment non-intrusively



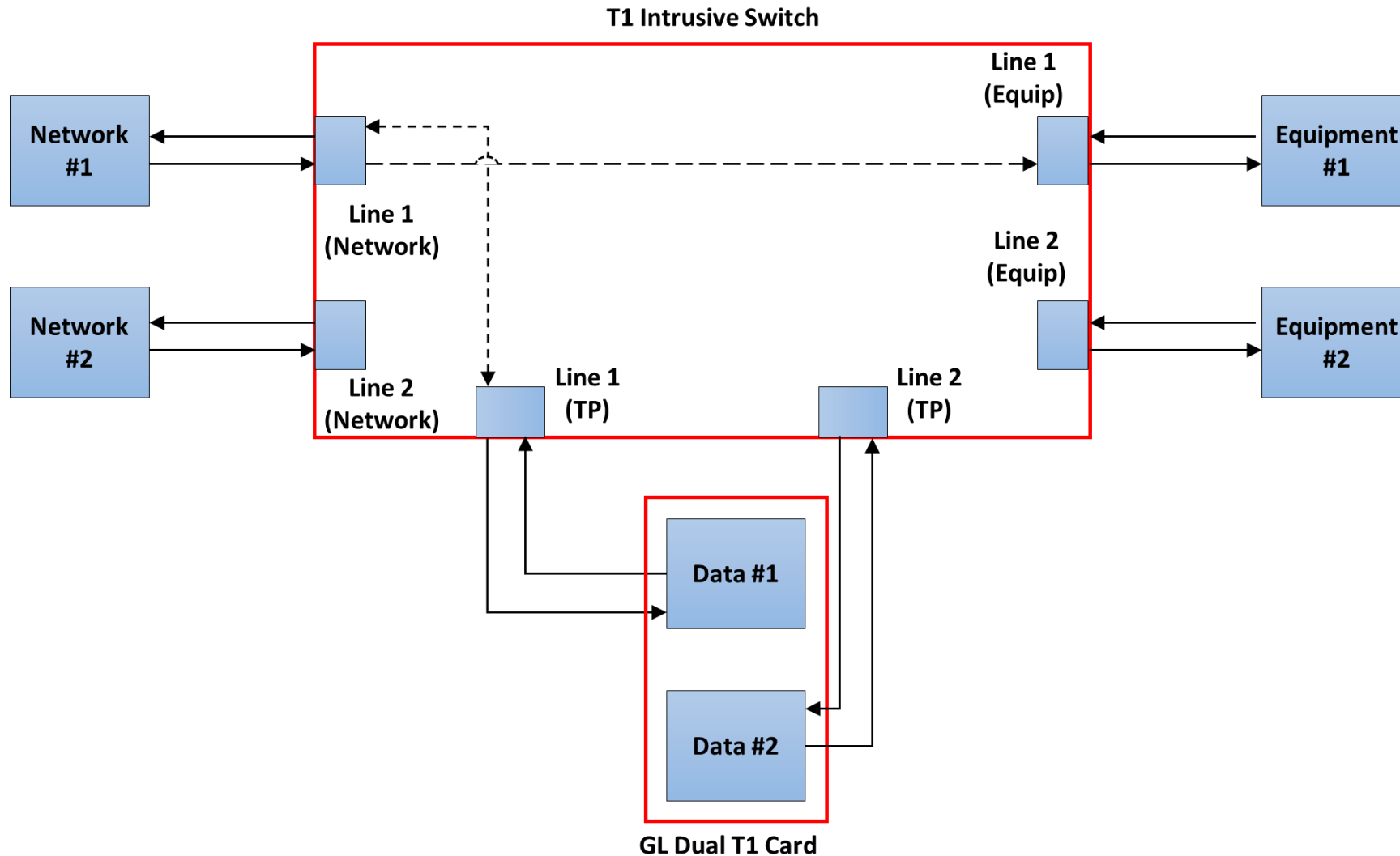
Dual Direction Testing

- Allows to test the incoming signals intrusively from the Line and the Equipment at the same time



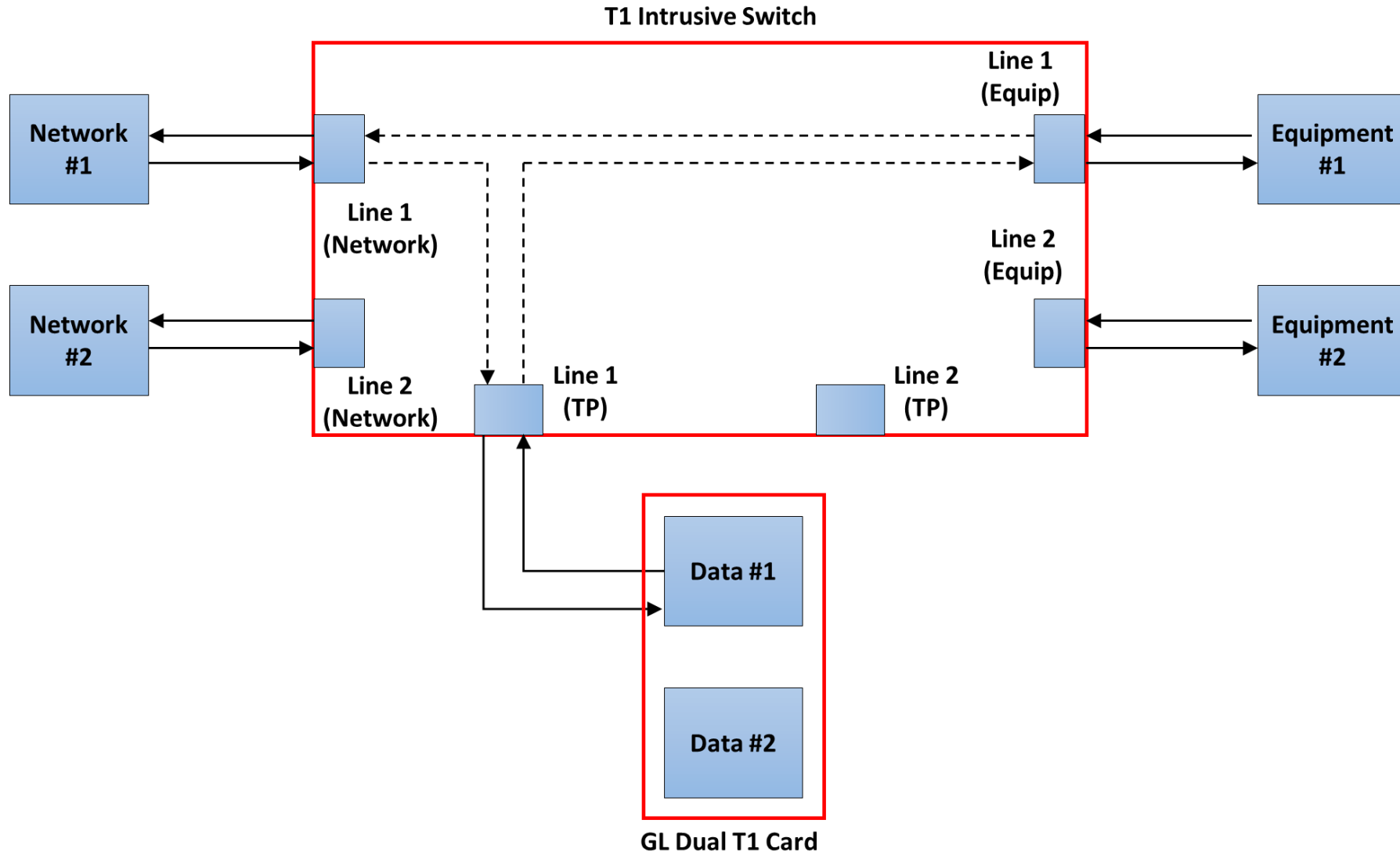
Monitor Line Loopback with Signal Thru

- Allows to loopback the Line signal within the Switch and allow the test port to monitor. The signal from the Line is passed through to the Equipment



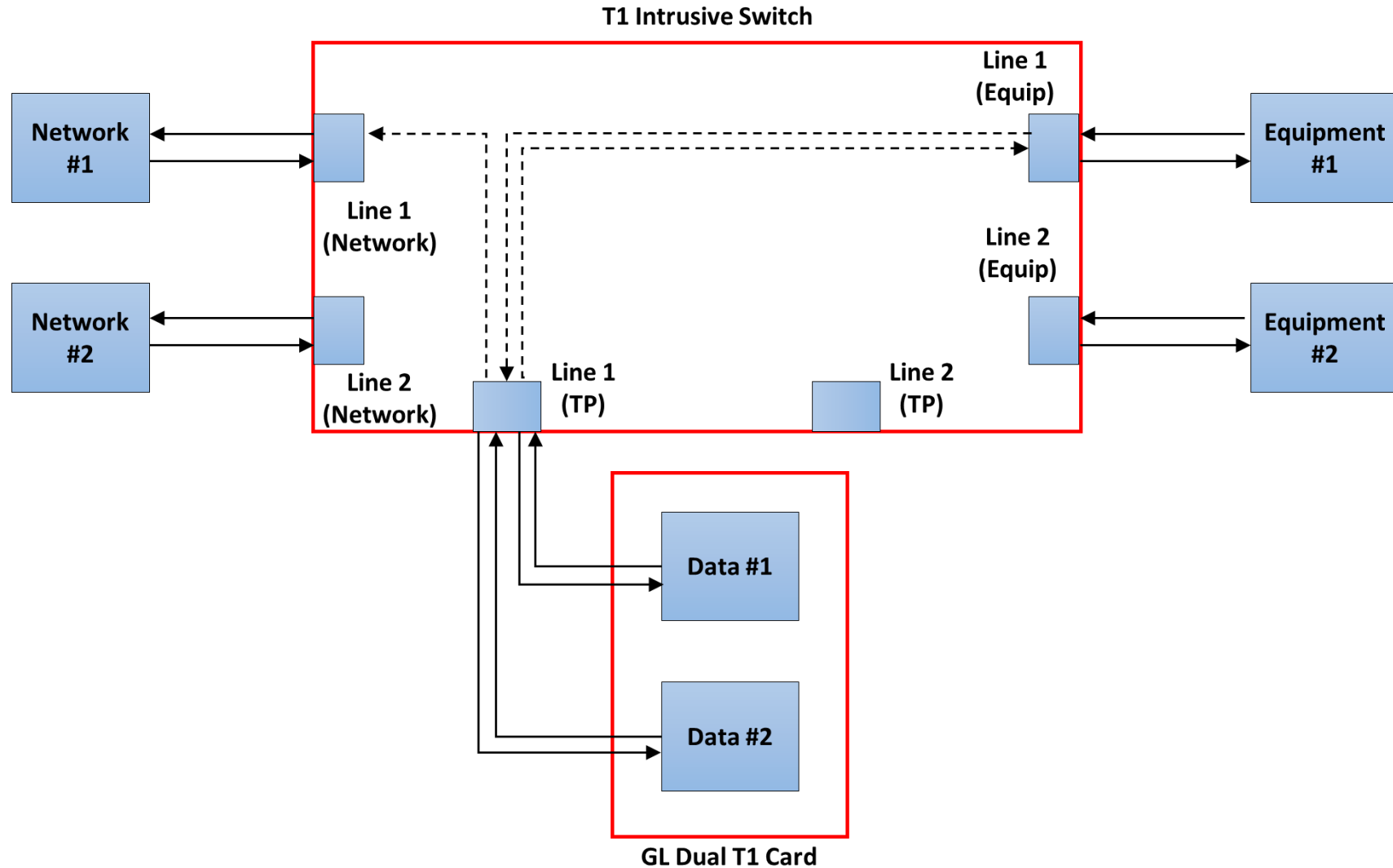
Drop and Insert to Equipment

- 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



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



Software Controls (Local) MS Windows GUI

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

Switch Selection: 1

Vendor ID: 0x15CC
Product ID: 0x2098
Manufacturer: GL Communications Inc
Product Name: T1/E1 Switch
Serial Number: 008777
Firmware Revision Date: 01/12/06 (mm/dd/yy)

Command Center

Primary Port: Port 1

No.	Port	Byte Value
1	Port 1	0x4000

Global Settings

Command Delay: 250 ms

Auto Send On Function Selection

Send Command

Send User Defined Command

Command (HEX): [][][][] Apply To All Ports

Send Command

Port Status

1	2	3	4	5	6	7	8	Power
0x4000	0x4000	0x4000	0x4000	0x4000	0x4000	0x4000	0x4000	Power
●	●	●	●	●	●	●	●	●

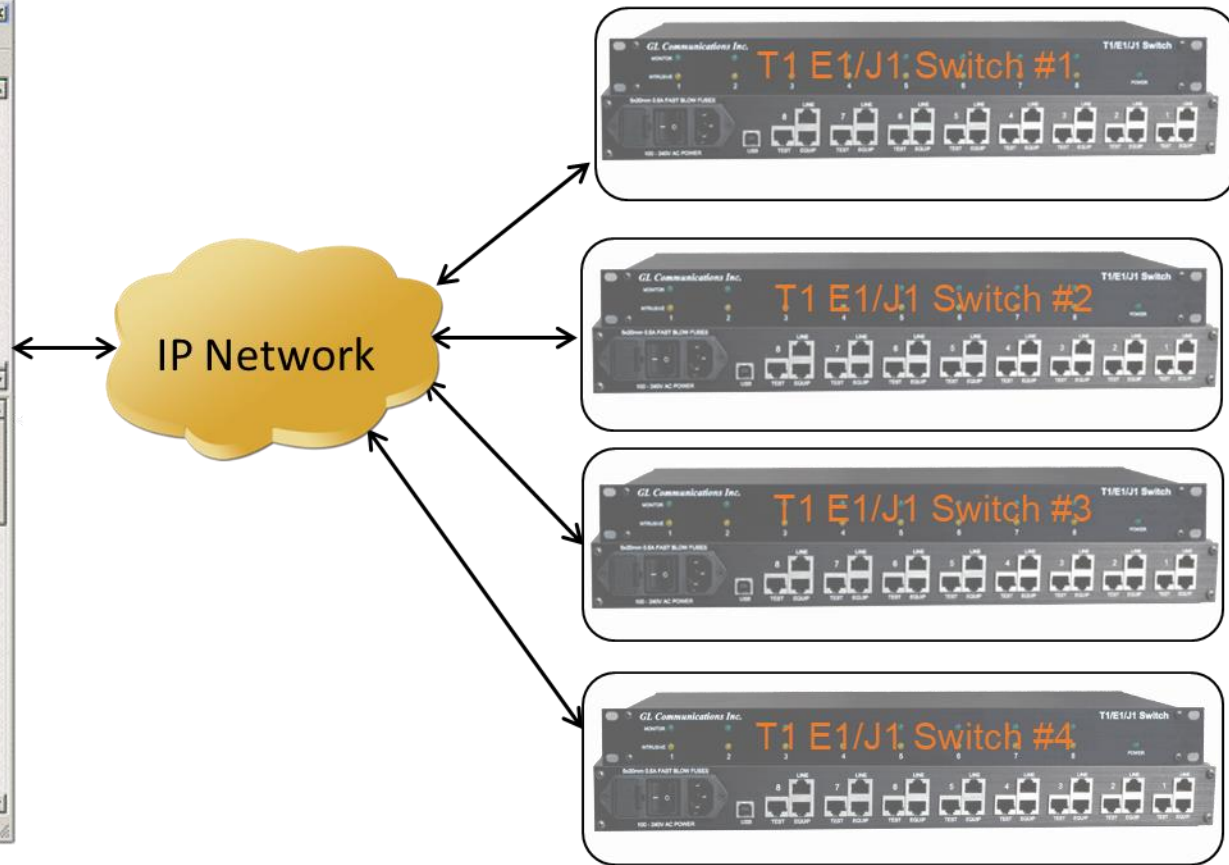
Continuous Refresh

Refresh

Close

Software Controls (Remote Location) Using GL's Windows Client/Server

```
Line1 Testing - InternalUse.gls - GLClient
File Edit View Connect Script Log User Help
OK
// Sets Switch to Intrusive Mode on Line 1
run action "T1E1Switch:ControllerAction" using "action=set_mode, mode=4, port=1" #1;
result=success, action=set_mode, port=1, mode=4
Waiting 2000 msec
// Running "full framed Loop-up" bert pattern for 10 seconds
bert 64k pattern "csu loop-up" #1 framed 10 sec report 1 sec;
Task 2605: Task 2605 started
Task 2605: #1: BER[1.000]: SYNC=false, BEAR=0, LPS=0, Bits=0
Task 2605: #1: BER[2.000]: SYNC=false, BEAR=0, LPS=0, Bits=0
Task 2605: #1: BER[3.000]: SYNC=false, BEAR=0, LPS=0, Bits=0
Task 2605: #1: BER[4.000]: SYNC=false, BEAR=0, LPS=0, Bits=0
Task 2605: #1: BER[5.000]: SYNC=false, BEAR=0, LPS=0, Bits=0
Task 2605: #1: BER[6.000]: SYNC=true, BEAR=0, LPS=0, Bits=1535986
Task 2605: #1: BER[7.000]: SYNC=true, BEAR=0, LPS=0, Bits=1535992
Task 2605: #1: BER[8.000]: SYNC=true, BEAR=0, LPS=0, Bits=1535987
// USPS Testing Script - Line 1 Testing
// Sets T1 Testing Card to Proper INTRUSIVE Testing Modes
set rx interface terminate #1;
set superframe format esf #1;
set line coding b8zs #1;
set bc clock source internal #1;
set outward driver loopback off #1;
set inward driver loopback off #1;
set latency default;
set response default;
set priority default;
// Sets Switch to Intrusive Mode on Line 1
run action "T1E1Switch:ControllerAction" using "action=set_mode, mode=4, port=1" #1;
wait 2000;
Ready Ver 4.8 NUM
```



Thank you