

Frequency Calibration Procedure

Purpose

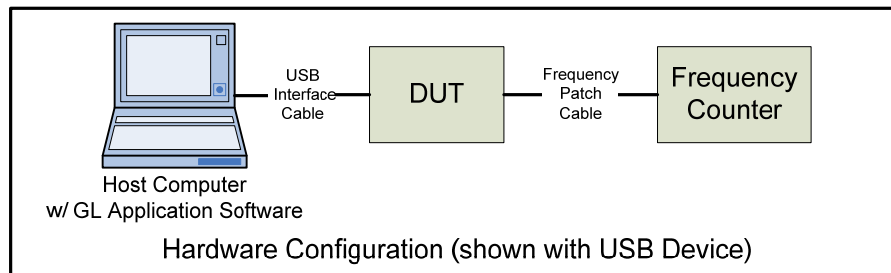
This procedure describes the process of calibrating, to the fundamental frequency, any GL product containing an adjustable oscillator. This procedure assumes the user is already familiar with the GL application software and has access to the proper reference standard, cabling, and tooling required for this task.

Materials Required

- Device Under Test (DUT)
- Frequency Counting Standard (calibrated and accurate to 0.1Hz or better)
- Host PC with GL Application software installed
- Patch Cable; DUT connection (MCX plug) to Frequency Counter (typically a BNC connector)
- Trimpot screwdriver (or equivalent)

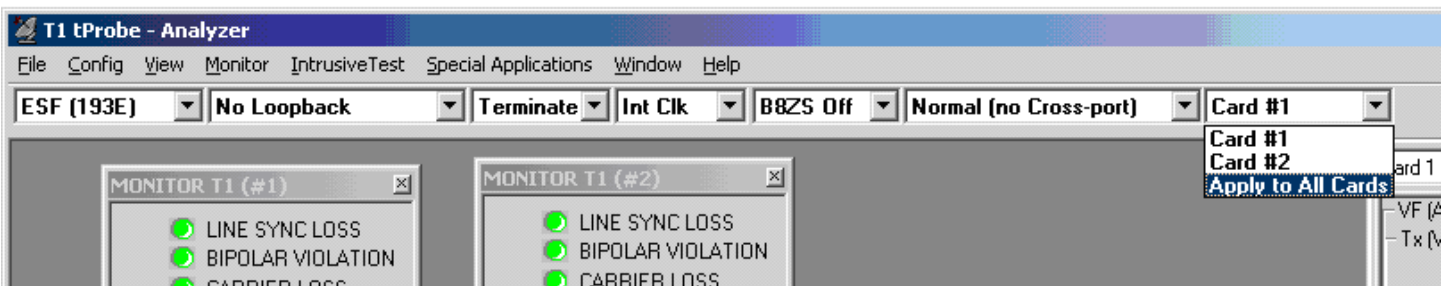
Hardware Setup

1. Turn on the frequency counter at least 30 minutes before conducting the test. This will allow the unit to come to thermal equilibrium.
2. Gain access to and locate the frequency adjustment potentiometer (trimpot) for the DUT.
3. Install the DUT and power up, again allowing 30 minutes warm up time for the unit.
4. Connect the patch cable between the DUT and the Frequency Counter.



Software Configuration

1. Open the appropriate GL Application software.
2. Set the following parameters:
 - a. Clock - INT CLK (Internal Clock)
3. Apply to All Cards (ports)



Typical T1 GL Application Screen

PROCEDURES

At this point if the hardware has been properly setup and the application is open and configured correctly the Frequency Counter should be displaying the oscillator frequency output from the DUT. If not, go back through the previous steps to insure all is set up correctly.

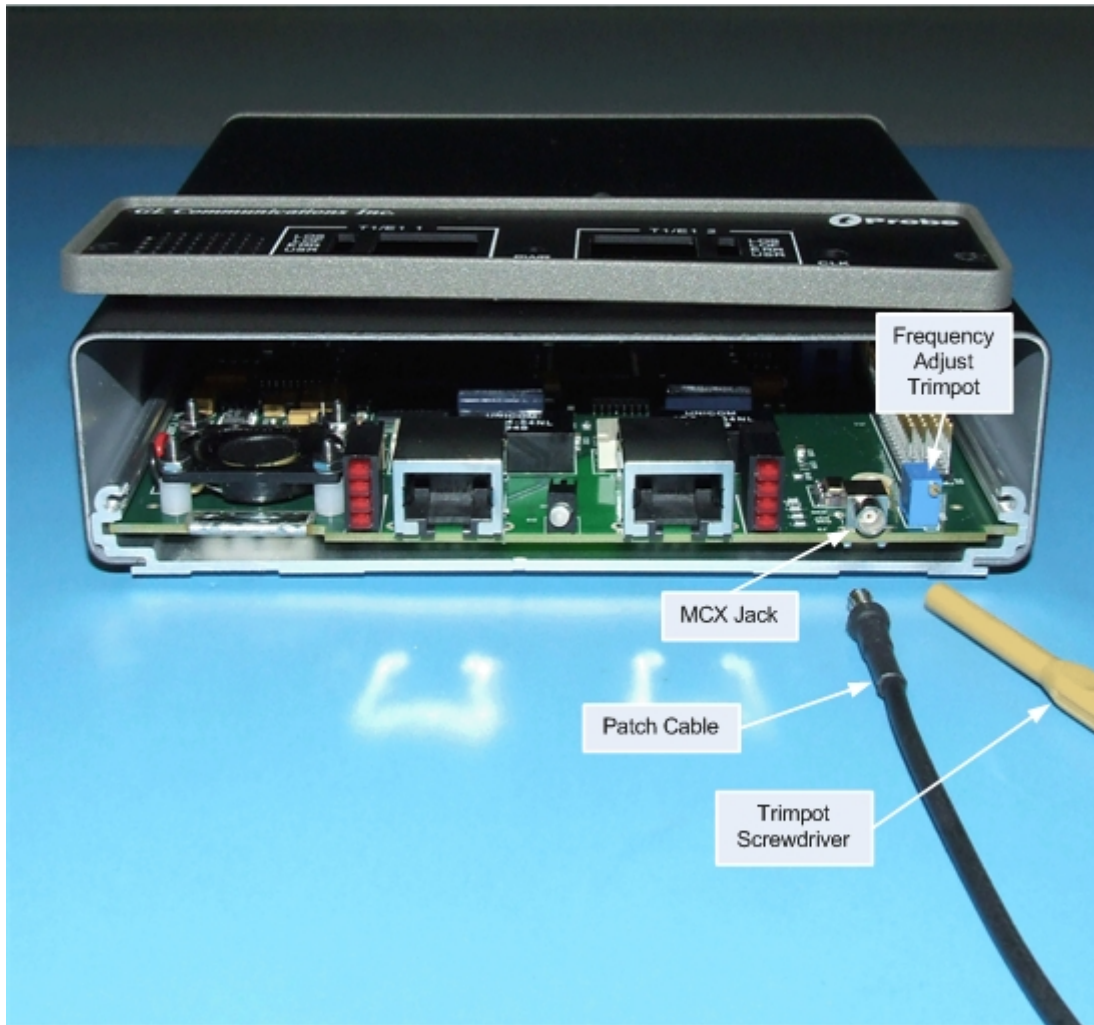
NOTE: Target frequency for T1 is 1.544 MHz for E1 2.048MHz (tolerance ± 1 Hz)

1. Place the screwdriver on the adjustment screw of the trimpot and turn in small increments (1/16 of a turn or less) while observing the display of the Frequency Counter. When each adjustment is completed remove the screwdriver from the trimpot.
2. After each adjustment allow the Frequency Counter to update the display several times before making additional trimpot adjustments.
3. Once the Frequency Counter is reporting the target frequency continue to allow the display to update several more times to insure the target frequency is stable.
4. Calibration is complete when the displayed value is constant.
5. Close the Application Software and disconnect the DUT from the system.
6. Apply a dated Calibration Label to the DUT to indicate when the unit was certified.
7. Repeat the previous steps to calibrate additional DUTs.

Location of MCX Jack and Trimpot for Various GL Products



tProbe™ – Front



tProbe™ – Faceplate Removed for Frequency Adjustment

For guidance on other products with adjustable frequency contact GL Communications.

- T1/E1 Laptop Analyzer (USB)
- HD Universal Dual T1/E1 (PCI)
- HD Dual T1 (Legacy PCI)
- HD Dual E1 (Legacy PCI)
- Dual T1 (Legacy PCI)
- Dual E1 (Legacy PCI)
- Single T1 (Legacy PCI)
- Single E1 (Legacy PCI)