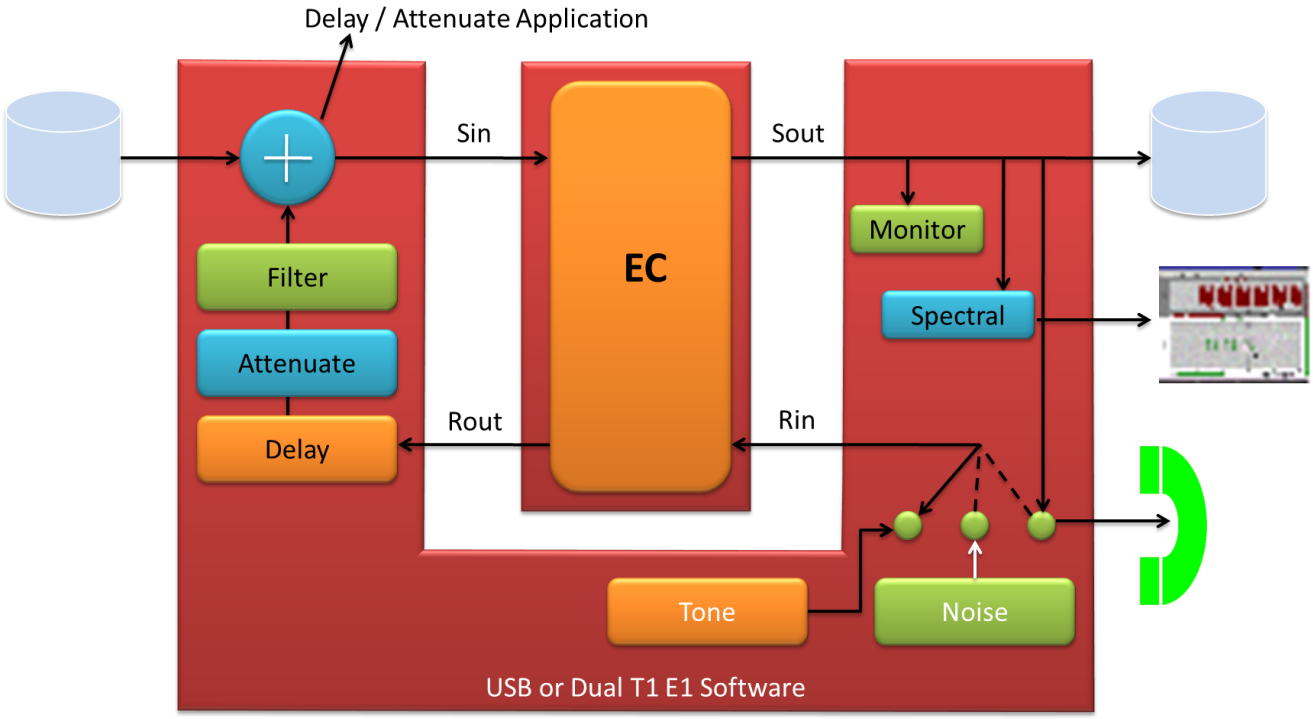
Manual Echo Testing Solutions for TDM



Overview

GL's T1/E1 Echo Canceller Test Suite includes optional licensed applications including Echo Path Delay/Loss Measurement, Echo Path Delay/Loss Simulation, and Echo Canceller Simulator with graphical echo path representation. The Measure Loop Delay/ERL application measures and displays loop delay and echo return loss (ERL) on one or more time slots.

The Delay/Attenuate Timeslots application lets you delay, attenuate or amplify, and/or apply a filter to a received signal on any number of timeslots. The Delay/Attenuate Timeslots – Single Channel application supports short delay echo path modeling. This application also allows you to apply delay, attenuation or gain, and/or digital filtration to a received signal on a single timeslot.

The Digital Echo Canceller (DEC) is a four-port device that supports bi-directional voice traffic between the two ends of a connection. The GLC View application is a waveform viewer application. It has been designed specifically as a companion component for GL's T1/E1 Echo Canceller Test Suite.

For more details, refer TDM (or Analog) EC Testing Solutions webpage.

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

Main Features

Measure Loop Delay / ERL module:

- Multiple timeslots and multiple measurement strategies supported
- User-specified minimum and maximum delays expected in the echo path
- Inputs from T1/E1 timeslots, Gaussian noise generator, and A-Law/µ-Law files

Delay / Attenuate Timeslots module:

- Single and Multi-channel versions available
- Single-channel module supports very short delays. Multiple instances may be run simultaneously
- Noise and double-talk may be injected from noise generator of signal files
- G.168 Echo Path models provided

Digital Echo Canceller Simulator:

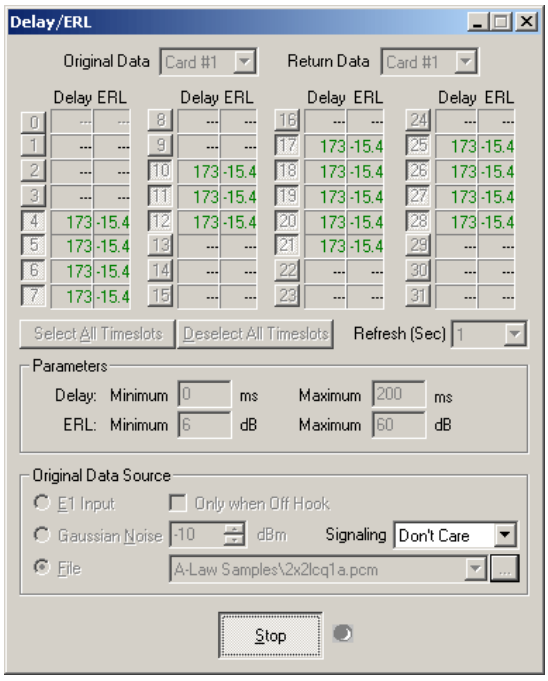
- Supports real-time and offline processing
- Interfaces directly with A-Law or µ-Law encoded signals
- 16, 32, 64 or 128 ms tail length; programmable tail offset
- Comfort noise generator with adaptation to background noise level
- Continuous reporting of echo path delay, ERL, and dispersion

GLC View Waveform Viewer:

- Synchronized viewing of waveform and power graph
- Programmable power window
- Zoom-in and zoom-out capability

Measure Loop Delay / ERL

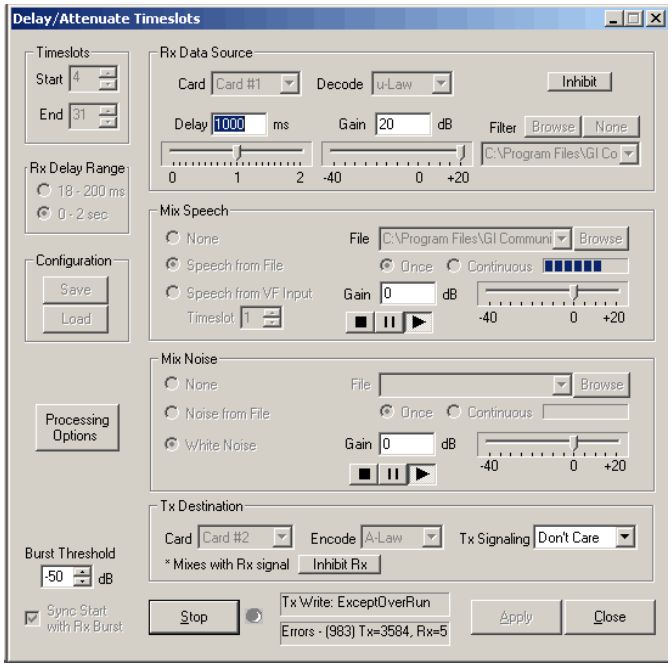
The Measure Loop Delay/ERL module measures and displays loop delay and Echo Return Loss (ERL) on one or more time slots. Both intrusive and non-intrusive operations are supported. Non-intrusive operation requires two GL receive ports, one of which monitors the original signal while the other monitors the returned signal. Non-intrusive operation requires one GL send port where a test signal is injected, and one GL receive port, where the returned signal is monitored.



Measure Loop Delay/ERL

Delay Attenuate Timeslots

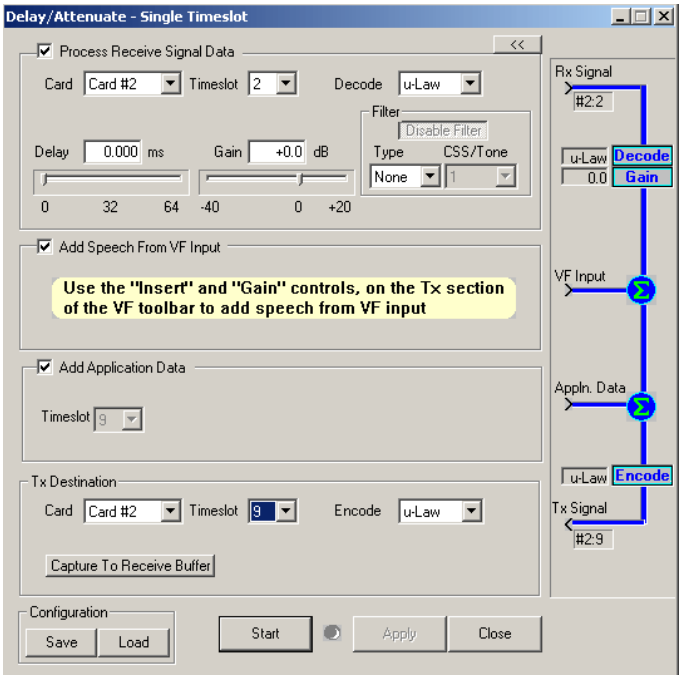
This is an "input-process-output" application, where a block of data retrieved from the Rx data source and is processed by delaying, attenuating, and/or filtering. They are then retransmitted on the Tx Destination. This application allows applying delay, attenuation, and/or filtering to a received signal on any number of timeslots. Also allows mixing additional signals from a numerous sources, including signal files, VF input, T1/E1 timeslots, and/or an internal Gaussian noise generator.



Delay Attenuate Timeslots

Delay Attenuate Timeslots – Single Channel

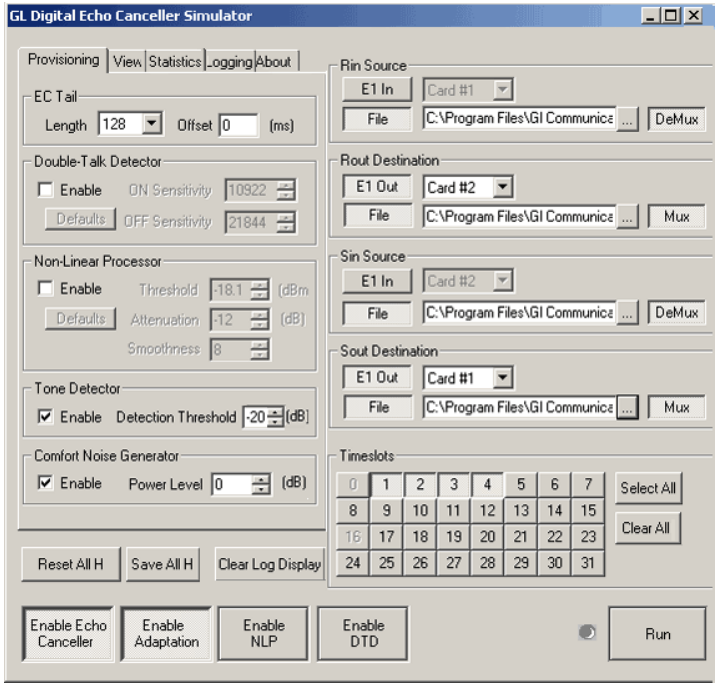
This application facilitates Short-delay echo path modeling. It allows you to apply delay, attenuate (gain), and/or filtering to a received signal on a single timeslot. The signals from other sources can be mixed-in, including speech signals from VF input and Gaussian noise or tone signals generated internally by the module.



Single Channel Delay Attenuate Timeslot

Digital Echo Canceller

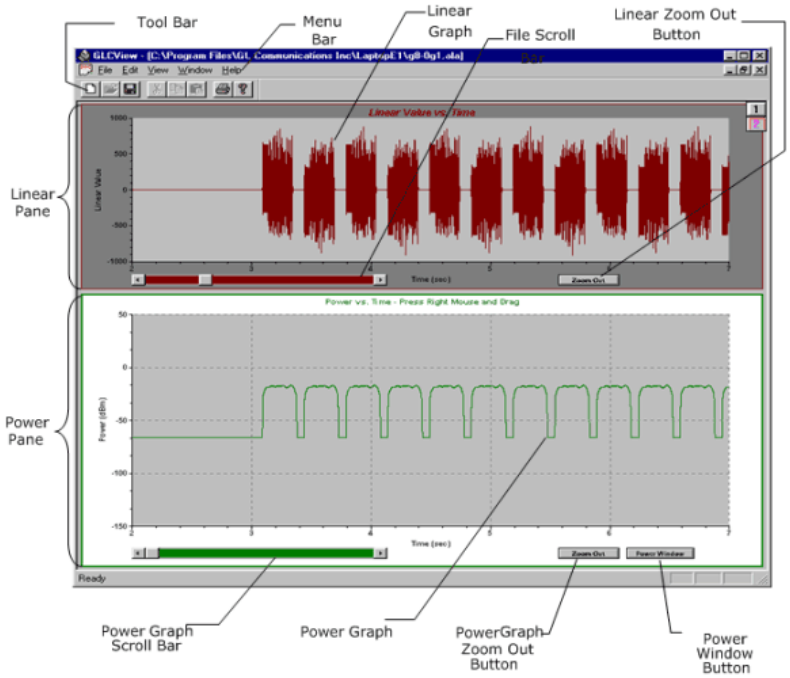
A Digital Echo Canceller is a four-port device that supports bi-directional voice traffic between the far end and the near end of a connection. The function of the echo canceller is to detect and remove the echo. It does this by estimating the transfer function of the hybrid that produces the echo, which it accomplishes by comparing the echo to the original signal. This module interfaces directly with A-Law or µ-Law encoded signals. Both real-time and offline processing are supported.



Digital Echo Canceller

GLC View

GLC View is a waveform-viewer application. The program is used to view previously captured raw data files and their corresponding power.



GLC View

Buyer's Guide

Item No	Product Description
XX062	Echo Path Delay/Loss Simulation Software w/GLCView
XX063	Echo Path Delay/Loss Measurement Software
XX066	Digital Echo Canceller

Item No	Related Software
SA048	Goldwave Software
XX065	G.168 Echo Canceller Test Suite
XX067	Automated Echo Canceller Testing for TDM-TDM
PKB080	Automated Echo Canceller Testing for VoIP-TDM
XX068	Semi-automated Scripted EC Testing

Item No	Related Hardware
PTE001	tProbe™ T1 E1 Base Unit
FTE001, ETE001	Quad and Octal T1 E1 Analyzer Boards
XTE001	Dual Express (PCIe) T1 E1 Boards
TTE001	tScan16™ T1 E1 Boards

Note: PCs which include GL hardware/software require Intel or AMD processors for compliance.

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