

# GFT1208

## 8 Channel Digital Delay Generator

### Features

- Eight Independent Delay Channel  
1 ps resolution  
15 ps RMS Jitter (Channel to channel)  
1 second delay range
- Output pulse  
2.5V to 10V into 50  $\Omega$   
<2 ns rise time  
Lemo connector
- Trigger source  
Internal or External
- cPCI, 6U, 1 slot form factor
- Optical input (option) for timing system mode

### Applications

- Components Testing
- ATE Application
- Laser Timing system
- Precision Pulse Application
- Picosecond timing system



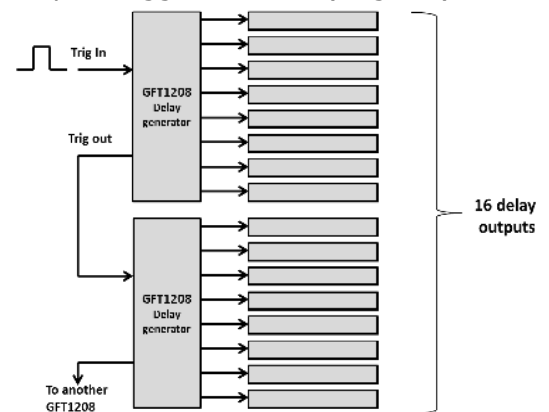
### Description

The GFT1208 module provides eight independent delay channels. The delay resolution on all channels is < 1 ps and channel to channel jitter is less than 15 ps. LEMO outputs deliver up to 10 V level with a 1.5 ns typical rise time into 50  $\Omega$ . Output pulse Amplitude and width are adjustable.

One input trigger (Trig In), or one internal frequency programmable generator, or software command is used to trigger off all output channels. One output Trigger channel (Trig out) is used to mark zero delay for each trigger in different operation modes.

This output (Trig out) can also allow to synchronize several GFT1208 delay generator by daisy chaining several modules. In this way up to for GFT1208 can be synchronized (See two daisy chained modules example)

In timing system mode (option 1) the module could be optical synchronized via an optical network and a GFT3001 Master Oscillator Transmitter who provides triggers and time base. Up to 256 GFT1208 generators can be synchronized.



16 channels with two daisy chained GFT1208



Example of GFT1208 Control panel

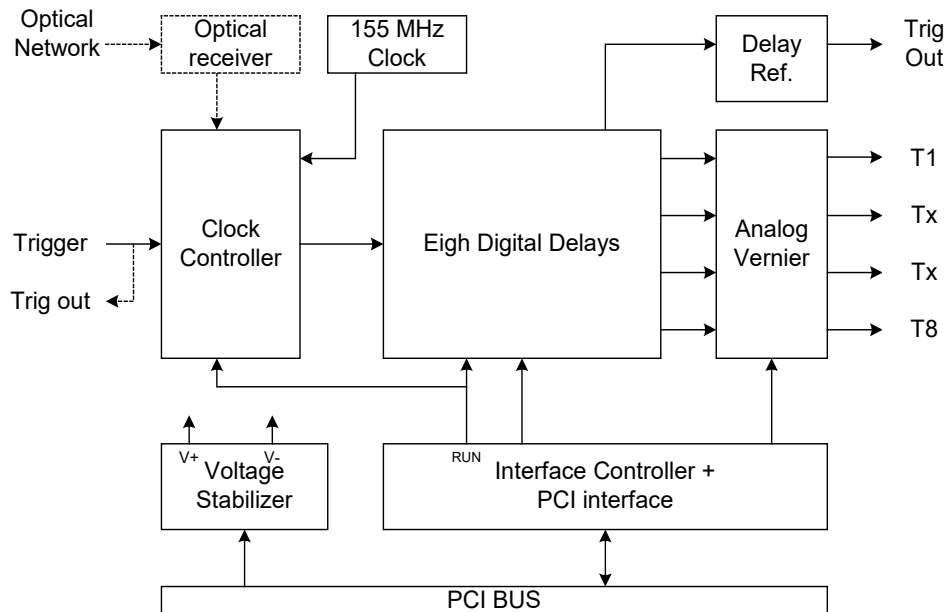
### Control panel software for Windows

This free software provides a simple method to configure settings for each channel (delay, output amplitude, output width), trigger source, trigger mode, and to control operation and status of the generator.

Users can store and recall the configuration and parameters from the control panel

The software is designed to allow multiple GFT1208 to be installed and operate in the same cPCI rack. Each module is addressed by its serial number.

# GFT1208: 8 Channel Digital Delay Generator



## Specifications

### Delays

Channels	8 independent delay channel
Range	0 to 10 s
Resolution	1 ps
RMS jitter	15 ps (Channel to channel) 500 ps + $10^{-7} \times \text{delay}$ (External trigger to any output)
Trigger Delay	< 100 ns (insertion delay)
Accuracy	< 250 ps + $\text{delay} \times 10^{-7}$
Time base	10 MHz internal clock, 25 ppm

### Trigger source

External Trigger input	Repetition rate < 50KHz, Level 1V, slope positive, impedance 50Ω or high impedance, width > 20 ns
Internal Trigger	1 Hz to 50 kHz, resolution: 1 Hz

### Trigger out

Same specifications as Output pulse

### Output pulse T1 to T8

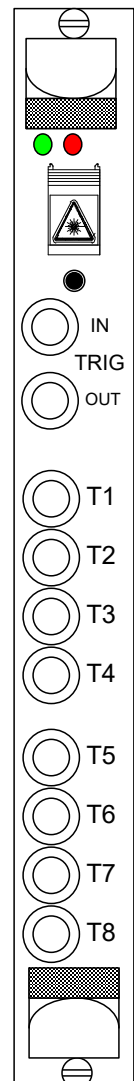
Level	2.5 to 10 V, resolution: 1 mV
Width	200 ns to 1 μs
Load	50 Ω external
Rise time, fall time	< 2 ns, < 5 ns
Connector	LEMO

### General

Size	CPCI, 1 slot
Power	15 W
Led	Green: Power on
Software	Free driver and control panel for Windows 10/11

### Options

- Option 1 : Optical input for timing system
- Option 2: 50ps RMS jitter (External trigger to any output)



Front panel