GFT9404

8 Channel Digital Delay Generator

FEATURES

- Four independent delay channels
  - 1 ps resolution
  - < 50 ps rms jitter
  - > 20 second delay range
- Four auxiliary delay channels
  - 5 ns resolution
  - < 100 ps rms jitter
  - > 20 second delay range
  - Front panel or PXI bus
- PXI 3U, 1 slot, compact packaging

APPLICATIONS

- Components test
- ATE
- Laser timing
- Precision pulse
- Instrument triggering

DESCRIPTION

The GFT9404 module provides four independent delay channels (T0 to T3). The delay resolution is 1 ps, and external trigger to channel jitter is less than 50 ps. SMB outputs deliver 5 V, 2 ns rise time, under 50 Ω. Amplitude and width are adjustable on each output pulse.

The GFT9404 also provides four auxiliary delay channels to the front panel (AT0 to AT3). The copy of these four channels is provided on the PXI bus (PXI trig 0 to PXI trig 3). The delay resolution is 5 ns (one time base clock) and trigger to channel jitter is 100ps.

One input trigger (TRIG IN), PXI STAR trigger, or internal frequency is used to trigger all output channels.

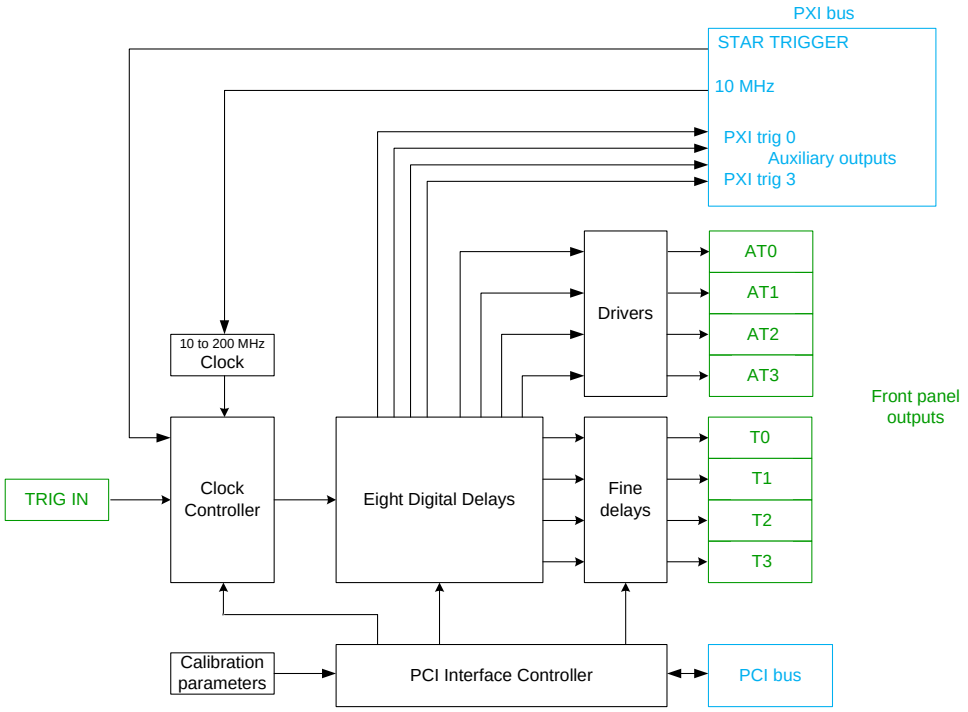
Control panel software for Windows:

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 the state of the instrument.

The configuration information of the instrument can be stored to disk and restored.

The software is designed to allow multiple GFT9404 to be installed and operate in the same PXI chassis. Each module is specified by its serial number.

GFT9404, 8 Channel Digital Delay Generator



SPECIFICATIONS

Delays

Channels	4 independent delay outputs
Range	0 to > 20 seconds
Resolution	1 ps
Jitter	50 ps rms + delay x 10^{-7}(1) (external trigger to any output)
Accuracy	< 250 ps + delay x 10^{-7}(1)
Time base	200 MHz, 25 PPM (1)
Time reference	10 MHz, 25 PPM from PXI Clk10

Auxiliary Delays

Channels	4 independent delay outputs
Range	0 to > 20 seconds
Resolution	5 ns
Jitter	< 100 ps rms + delay x 10^{-7} (1) (external trigger to any output)
Accuracy	1 ns + delay x 10^{-7} (1)

Trigger

Internal trigger	1 Hz to 10 kHz, step = 1 Hz
External trigger	Repetition rate < 50 kHz
	Trigger level, from 0.1 to 5V,
	Internal load: 50Ω
	Positive or negative trigger slope
	Minimum trigger delay < 50 ns
	Single or repetitive trigger
PXI trigger	PXI STAR from PXI bus

Output T0 to T3

Amplitude	2 to 5 V
Width	200 ns to 10 µs
Load	50 Ω
Rise time	< 2 ns
Fall time	< 5 ns
Connector	SMB

Auxiliary Output AT0 to AT3

	AT0 to AT3	PXI trig 0 to trig3
Amplitude	5 V	3.3 V
Width	200 ns	25 ns
Load	50 Ω	
Rise time	< 5 ns	PXI standard
Fall time	< 5 ns	
Connector	MMCX	PXI connector

General specifications

Size	PXI, 3U, 1 slot
Power	15 W (+ 3.3 V / + 5 V / + 12 V)
Leds	Red: Fault, Green: Trigger on

Software

Free Drivers for Windows XP/Vista

NI-VISA and LabVIEW driver

Control panel software for Windows

(1): performances with 10 MHz PXI