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)
- 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)
- 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