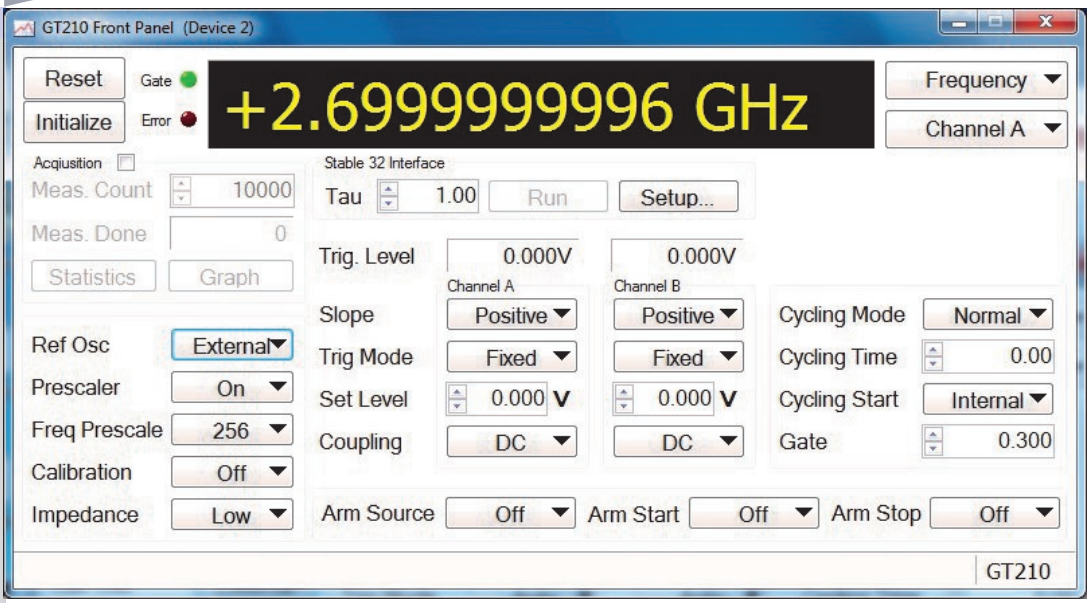
GuideTech

Precision Time & Frequency
Test & Measurement Instruments, ATE

GT210 Time Interval Counter

2.7GHz, 0.9ps Resolution Time & Frequency Measurement Instrument



APPLICATIONS

- 1 PPS Monitoring
- Allan Variance
- Measure Jitter and Skew
- Lab / R&D Characterizations
- Variation in Pulse Timing
- PLLs and Frequency Modulation
- Fast Production Time Analysis
- Portable Telecommunication Test
- Nuclear Physics
- Radar & Ultrasonic Timing
- Satellite Laser Ranging
- Optical and Magnetic Disk Timing

SOFTWARE SUPPORT

- **GuideTech GT210 TIC GUI**
- Software package & APIs
- Windows 32bit, 64 bit
- Linux 32bit, 64 bit
- NI LabVIEW
- Custom software Development/Support

KEY FEATURES

- Very Low noise floor
- High Accuracy and flexibility
- NIST Traceable OCXO Time-Base
- Seamless transition from R&D lab to device characterization, and production
- Easily expandable for building complete **PXI/PXIe** systems with up to 17 Cards/34 synchronized channels

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The **GT210** Time Interval Counters are an improved version of the popular **GT200 TIC** (since 1988) which are currently in use in thousands of applications ranging from satellite tracking to monitoring of atomic clocks.

GuideTech's TIC's include all of the functions normally found on premium counters: Time Interval, Frequency, Period, Totalize, Ratio, Time Interval with Delay, and Pulse Width. Unlike many other boards of its kind, these instruments deliver worry-free results, and their inputs are high instrumentation quality, with the sensitivity and damage protection features common to all high quality counters.

Achieve impressive performance and accuracy with **GuideTech's** Time Interval Counters product line with up to 2.7GHz and a noise floor of 3ps.

With its modular capability, **GuideTech** offers a wide range of **TIC** solutions in **PCI, PCIe, PXI, PXIe, GT8000PXI/PXIe** &

GuideTech's GT210 PXI & PXIe 3U is of industrial standard, plugs into National Instruments and/or any other PXI or PXIe chassis for an expandable test platform, facilitating for optimal test systems configurations at optimal cost.

The ability to precisely resolve frequency and time yields both an increase in accuracy as well as reduced measurement time. For example, with the **GT210** you can determine any frequency to 0.001 part per million (nine digits) in just 1ms, and resolve each time measurement to 0.9pS. Couple that with tens of thousands measurements per second, and you can acquire more data in a single second than a typical GPIB counter can in one minute!

Faster measurements and higher resolution, along with built-in statistics functions give you a more thorough analysis of your signal.

Standard deviation, peak to peak jitter, and/or a graph of the measurements are available at the click of a mouse.

www.jitter.com

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Measurement Instrument

GT210 MODELS

PCI

- GT210PCI-1
- GT210PCI-2
- GT210PCI-15
- GT210PCI-40

PCIe

- GT210PCIe-1
- GT210PCIe-2
- GT210PCIe-15
- GT210PCIe-40

PXI

- GT210PXI-1
- GT210PXI-2
- GT210PXI-15
- GT210PXI-40

PXIe

- GT210PXIe-1
- GT210PXIe-2
- GT210PXIe-15
- GT210PXIe-40

* **-1** = 0.9pS resolution

* **-2** = 1.8pS resolution

* **-15** = 15pS resolution

* **-40** = 40pS resolution

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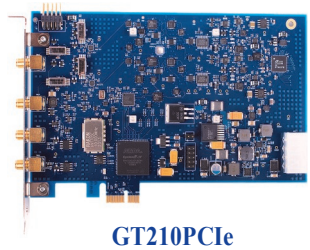
SYSTEM & BENCH-TOP APPLICATIONS

The **GT210** counters is operated just like conventional bench-top instruments with a standard Virtual Front Panel software which uses the power of a PC and/or PXI/PXIe controller to speed and simplify data acquisition and analysis. Instant plots of measurements can be viewed or saved to disk without any programming.

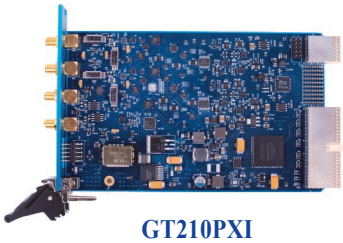
In system applications, you can read and control the **GT210** from a test program using a set of library functions for C, or Visual Basic, via NI LabVIEW driver, or with any language that can call a Windows DLL (or Linux .so) library.

Installed inside any **PC** and/or **PXI/PXIe** chassis, you will experience superior counter capability for a remarkably low price. The **GT210** is a much better choice, in terms of performance, flexibility, and ease of use, when compared to the premium priced bench-top instruments.

GT210PCI



GT210PCIe



GT210PXI

GT210PXIe

MAIN INPUT CHANNELS:

- No. of channels: 2 per site, A & B
- Frequency range: DC - 2.7 GHz
- Sensitivity:
  - * 50 mV rms (DC - 2.7 GHz)
- Input impedance: 1KΩ / 10 pF, or 50Ω software programmable
- Coupling: DC or AC
- Threshold setting (each channel):

* Range: -5V to + 5V
* Resolution: 153 µV
* Absolute accuracy: 0.1% of setting
* Automatic threshold setting option

EXTERNAL CONNECTIONS

- Main channels: 2, SMA per site
- External clock: 1, SMA
- External arm: 1, SMA

Time Res. Single Shot - 0.9ps

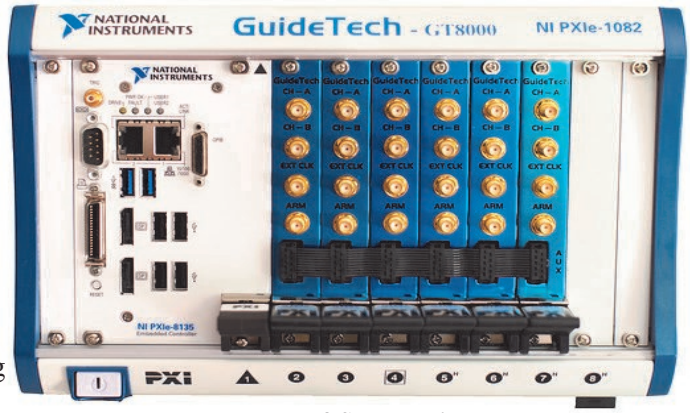
Freq. Res. (Digits/S) - up to 12

TIMEBASE:

- Frequency 100MHz locked to:
  - * Internal 10MHz OCXO
  - * External clock: 10 MHz (±3KHz)
- Minimum pulse width: 6nS
- Oven Oscillator:
  - * Temp: 0 - 45ºC ± 25ppb
  - Aging: ±1 ppm first year, ±3 ppm over 20 years

EXTERNAL CLOCK & ARM INPUTS:

- Sensitivity: 50mV rms
- Input impedance: 1KΩ
- Threshold setting
  - * Range: - 5V to + 5V
  - * Resolution: 153µV
  - * Absolute accuracy: 0.1% of setting
- Automatic threshold setting available



8 Slot Hybrid
GT8000PXI / GT8000PXIe