



GaGe is a worldwide industry leader in high-performance PC-based test & measurement instruments. Our product offering includes high-performance digitizers, signal generators, digital input and output cards, as well as easy-to-use oscilloscope software and a suite of powerful SDKs.

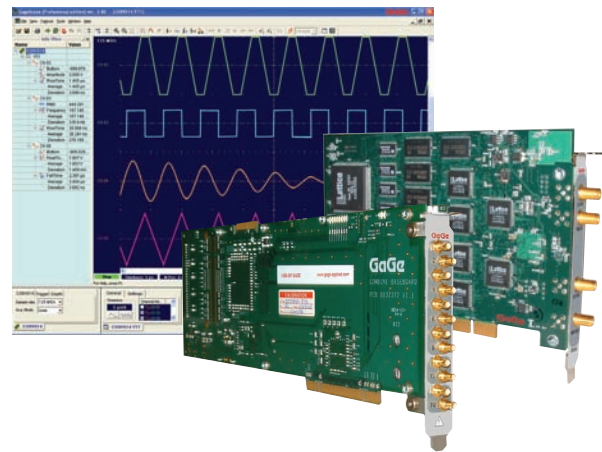
With a global sales and support network, GaGe products are used worldwide for a variety of applications in the research, military/aerospace, ATE and OEM markets.

APPLICATIONS

Radar/Lidar
Disk Drive Testing
Manufacturing Test
Signal Intelligence
Laser Optics
Communications
Non-Destructive Testing
Spectroscopy
High-Performance Imaging
Ultrasound Test

GaGe Product Overview

High-Performance Test & Measurement Solutions



GaGe's product offering includes a family of multi-MHz to GHz digitizers and PC-based oscilloscope cards, analog signal generator cards, digital input and digital output cards, as well as the programming-free GageScope® oscilloscope software and a vast array of powerful Software Development Kits (SDKs).

GAGE HIGH-PERFORMANCE DIGITIZERS

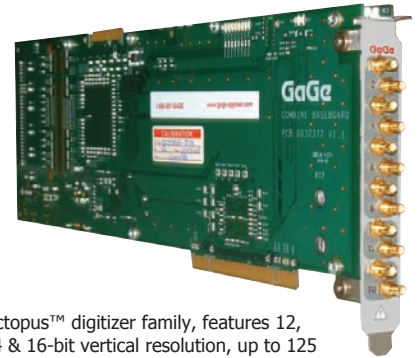
- 8, 12, 14, or 16 bit resolution
- Up to 8 channels on a single PCI card
- Up to 4 GS/s maximum sampling rate per channel
- Deep on-board acquisition memory of up to 4 GigaBytes -- enabling continuous capture and storage of up to 4 GigaSamples of data
- Ultra-fast data transfer rates to PC memory
- On-board Field Programmable Gate Array (FPGA) for advanced signal analysis features such as eXpert™ Finite Impulse Response (FIR) Filtering, Signal Averaging, Fast Fourier Transform (FFT) and Peak Detection
- Programmable from C, C#, LABVIEW, MATLAB, LabWindows/CVI, Visual Basic and Delphi
- Programming-free operation with GageScope®

NEW-GENERATION HIGH-PERFORMANCE PCI DIGITIZER CARDS

GaGe's new-generation high-performance PCI digitizer cards offer many new advanced features and options.

FEATURES

- Up to 8 channels on an single CompuScope card
- Available with ultra-deep on-board acquisition memory -- up to 4 GB in a single PCI slot
- 4 GB of on-board acquisition memory can be used to perform long continuous data captures or it can be segmented to capture millions of shorter waveforms
- Advanced timing connections (Trigger Out, Clock Out, External Clock)
- 32 bit, 66 MHz PCI standard for 200 MB/s transfer to PC memory
- On-board low-pass filtering
- True DC offset functionality
- Custom turn-key solutions built to your specifications -- up to 8 cards in a Master/Slave multi-card system for up to 64 synchronous channels
- Master/Slave multi-card interconnection is now modular -- simply connect or disconnect the Master/Slave Timing Module and restart the PC
- Time-stamp trigger events -- 44-bit wide on-board time-stamping counter is provided for logging the occurrence time of trigger events with an accuracy of 7.5 nanoseconds in both single record and multiple record modes
- Capture an extremely large amount of pre-trigger multiple record data, up to the full capacity of on-board acquisition memory
- GaGe's powerful and easy-to-use Software Development Kits (SDKs) allow rapid integration of GaGe hardware into a customer's software application under C/C#, MATLAB, LabVIEW, and other programming environments
- GageScope oscilloscope software is also available to provide programming-free operation



Octopus™ digitizer family, features 12, 14 & 16-bit vertical resolution, up to 125 MS/s sampling



Advanced eXpert on-board signal analysis features such as GaGe's Signal Averaging, FIR Filtering, Fast Fourier Transform (FFT), and Peak (Min/Max) Detection are optionally available on GaGe's new-generation high-performance PCI digitizer cards as Field Programmable Gate Array (FPGA) images. These features provide a fast and efficient means for users to process data on-board GaGe's digitizers and transfer only the data that is of interest to the PC for further analysis.

Signal Averaging is a powerful method of improving the fidelity of noisy repetitive signals. Small signals can be extracted from a background of high-amplitude noise. Waveforms can be signal-averaged at a rate of over 100,000 waveforms per second.

FIR Filtering is a powerful method for removing unwanted signal features, such as noise, from non-repetitive waveforms and emphasizing signal features of interest. Unlike traditional analog filters, FIR Filtering allows more complex filtering such as Moving Average Filters and Gaussian Filters. GaGe's eXpert FIR Filtering of digitized data is performed in real-time, with no reduction of digitizer repetitive signal capture rate.

Peak Detection is a widely used data analysis and reduction technique. GaGe's eXpert Peak Detection technology allows the detection of peaks within a set of digitized waveform data. Digitized waveform data is analyzed within the CompuScope's on-board FPGA in order to provide only peak information to the user.

GaGe's eXpert FFT FPGA technology removes the computationally-intensive load of FFT calculations from the host PC and performs them directly on-board the CompuScope digitizer.

Custom eXpert processing images that are tailored to a specific requirement have been provided to several GaGe customers.

PCI CompuScope A/D Card Specification Matrix - Highlights

| Spec | COBRA | COBRAMAX | BASE-8 | CS12400 | CS82XX | CS14200 | CS14105 | CS83XX | RAZOR | CS84XX |
|--------------------------|------------------------------|---------------------------|--------------------------------------|--|-----------------------------|--|-------------------------|-----------------------------|---------------------------------|-----------------------------|
| Card Size | 1 Full-length PCI Slot | 1 Full-length PCI Slot | 1 Full-length PCI Slot | 1 Full-length PCI Slot | 1 Full-length PCI Slot | 1 Full-length PCI Slot | 1 Full-length PCI Slot | 1 Full-length PCI Slot | 1 Full-length PCI Slot | 1 Full-length PCI Slot |
| Input Channels | | | | | | | | | | |
| # of Channels per Card | 1 or 2 | 1 or 2 | 1 | 2 | Up to 8 | 2 | 2 | Up to 8 | Up to 4 | Up to 8 |
| Max. # Cards per PC | 8 Cards 16 Channels | 8 Cards 16 Channels | 8 Cards 8 Channels | 8 Cards 16 Channels | 8 Cards 64 Channels | 8 Cards 16 Channels | 8 Cards 16 Channels | 8 Cards 64 Channels | 4 Cards 32 Channels | 8 Cards 64 Channels |
| Max. Sample Rate on 1 Ch | 2 GS/s | 4 GS/s | 500 MS/s | 400 MS/s | 10 to 125 MS/s | 200 MS/s | 105 MS/s | 10 to 125 MS/s | 100 or 200 MS/s | 10 or 25 MS/s |
| Vertical Resolution | 8 Bits | 8 Bits | 8 Bits | 12 Bits | 12 Bits | 14 Bits | 14 Bits | 14 Bits | 16 Bits | 16 Bits |
| Simultaneous Sampling | Yes | Yes | N/A | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Full Power Bandwidth | > 500 MHz Option to 1 GHz | 1 GHz | 200 MHz@50 Ω | 200 MHz@50 Ω | > 100 MHz | 100 MHz@50 Ω | 180 kHz to 230 MHz | > 100 MHz | 65 or 125 MHz | > 20 MHz |
| Voltage Ranges | ±50mV to 5V | ±50mV to 5V | ±50mV to 5V | ±100mV to 5V | ±100mV to 5V | ±100mV to 5V | ±100mV to 5V | ±100mV to 5V | ±100mV to 50V | ±100mV to 10V |
| Input Impedance | 50Ω | 50Ω | 50Ω | 1MΩ or 50Ω | 1MΩ or 50Ω | 1MΩ or 50Ω | 1MΩ or 50Ω | 1MΩ or 50Ω | 1MΩ or 50Ω | 1MΩ or 50Ω |
| Input Coupling | AC or DC | AC or DC | AC or DC | AC or DC | AC or DC | AC or DC | AC | AC or DC | AC or DC | AC or DC |
| Signal to Noise Ratio | 46 dB 10 MHz Input | 46 dB 10 MHz Input | 46 dB 10 MHz Input | 62 dB 9.85 MHz Input | 62 dB 10 MHz Input | 66 dB 9.85 MHz Input | 71 dB 9.85 MHz Input | 66 dB 10 MHz Input | 72.2 or 74.5 dB 10 MHz Input | 74 dB 10 MHz Input |
| ENOB | 7.4 | 7.4 | 7.4 | 10.0 | 10 | 10.7 | 11.5 | 10.7 | 11.7 or 12.0 | 12.0 |
| Data Storage | | | | | | | | | | |
| Memory Depth (samples) | 256M, 512M, 1G, 2G, 4G | 256M, 512M, 1G, 2G, 4G | 128 K (8M, 64M, 256M optional) | 32M, 64M, 128M, 256M, 512M, 1G, 2G | 128M, 256M 512M, 1G, 2G | 32M, 64M, 128M, 256M, 512M, 1G, 2G | 16M, 128M, 1G, 2G | 128M, 256M, 512M, 1G, 2G | 128M, 256M, 512M, 1G, 2G | 128M, 256M, 512M, 1G, 2G |
| Multiple Record | Standard | Standard | Standard | Standard | Standard | Standard | Standard | Standard | Standard | Standard |
| Triggering System | | | | | | | | | | |
| # of Trigger Engines | 5 independent | 5 independent | 2 independent | 5 independent | Up to 17 independent | 2 independent | 2 independent | Up to 17 independent | Up to 9 independent | Up to 17 independent |
| Trigger Slope | Pos. or neg. | Pos. or neg. | Pos. or neg. | Pos. or neg. | Pos. or neg. | Pos. or neg. | Pos. or neg. | Pos. or neg. | Pos. or neg. | Pos. or neg. |
| Trigger Source | CH 1 or 2, EXT, Manual | CH 1 or 2, EXT, Manual | CH 1, EXT, Software | A, B, EXT, Software | CH 1 to 8, EXT, Software | A, B, EXT, Software | A, B, EXT, Software | CH 1 to 8, EXT, Software | CH 1 to 4, EXT, Software | CH 1 to 8, EXT, Software |

Please refer to the product data sheets at www.gage-applied.com for more detailed and up-to-date product specification information. Information above is provided as a summary and is subject to change.

COMPUGEN ANALOG OUTPUT CARDS

GaGe now offers CompuGen analog output cards for the PCI bus. All CompuGen analog output cards can be operated within the same system as a CompuScope digitizer card. For instance, a CompuGen/CompuScope system can be configured into a stimulus/response instrument. A stimulus signal generated by the CompuGen card is connected through an electrical circuit and the output response signal is captured by a CompuScope digitizer card. Alternatively, a signal captured by a CompuScope digitizer card can be uploaded directly to a CompuGen analog output card, which can then play back the signal.

- CompuGen 4300/4302 - 12 Bit, 4-channel 300 MS/s Analog Output (D/A) Card
- CompuGen 8150/8152 - 12 Bit, 8-channel 150 MS/s Analog Output (D/A) Card
- CompuGen 11G/11G2 - 12 Bit, single-channel 1 GS/s Analog Output (D/A) Card



MULTI-CHANNEL SOLUTIONS

Capture multiple signals simultaneously with GaGe's multi-channel solutions. A single system can be equipped with up to 64 simultaneous channels. GaGe's Master/Slave multi-card CompuScope systems employ timing signal redistribution technology which compensates for signal propagation delays between CompuScope cards.

Even though the Master/Slave system is composed of multiple cards, at the very lowest software level, the system is handled as one single multi-channel device. Consequently, all GaGe software (drivers, GageScope, SDKs) provide completely transparent support for multi-channel systems.

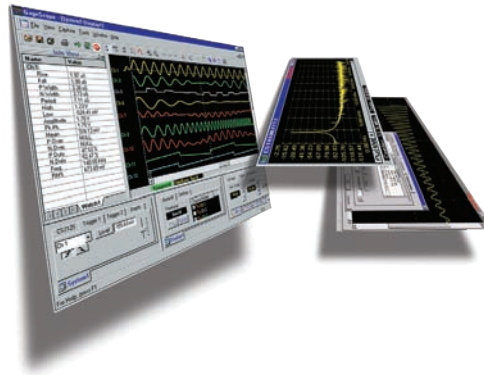
For applications that require asynchronous sampling and triggering, GaGe provides Multiple/Independent multi-card operation. Any combination of CompuScope cards may be operated from the same software applications. All GaGe software supports Multiple/Independent operation.

All GaGe multi-card systems are also available as custom turn-key solutions.

SOFTWARE SUPPORT

GaGe's powerful and easy-to-use SDKs allow rapid integration of GaGe hardware into a customer's software application under C/C#, MATLAB, LabVIEW, and other programming environments.

GageScope oscilloscope software is also available to provide programming-free operation. With an easy-to-use Windows-based user interface, GageScope allows complete control of CompuScope cards for analog signal capture. Data can be displayed, analyzed, printed and saved all from within the same operating environment.



ABOUT GAGE

GaGe, a brand of DynamicSignals LLC (DynamicSignals.com), is a worldwide industry leader in high-performance signal capture. GaGe, KineticSystems, Preston Scientific and Cyber Systems, all brands of the DynamicSignals growing family, serve a wide-range of industries by providing instruments and modules for PC-based test & measurement systems and synthetic instrumentation built on the PCI, CompactPCI/PXI, VXI, CAMAC and proprietary platforms.

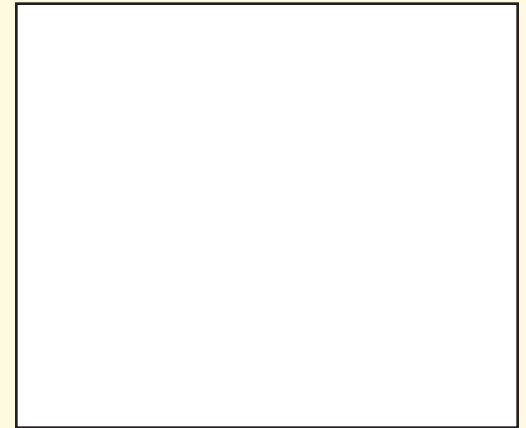
GaGe's PC-based test & measurement products include: high-performance digitizers, signal generators, digital input cards, and digital output cards. GaGe's product line offers the top performance on the market today in the 4 key dimensions of sampling speed, resolution, memory, and channel count.

The company's customer focus translates into products that are used across diverse industries such as Communications, Computers, Military/Aerospace, Fundamental Research, and Education. Applications served are Manufacturing Test, Radar (SIGINT), Ultrasonics, Lasers/LIDAR, Spectroscopy, Automated Test Equipment, etc.

All specifications subject to change without notice.

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Distributed By:



900 N. State St.
Lockport, IL 60441-2200

Toll-Free (US and Canada):

phone 1-800-567-4243
fax 1-800-780-8411

Direct:

phone +1-514-633-7447
fax +1-514-633-0770

Email:

prodinfo@gage-applied.com

To find your local sales representative or distributor or to learn more about GaGe products visit:

www.gage-applied.com