ABOUT US

Since 1987, GaGe is a worldwide industry leader in high-speed data acquisition solutions featuring a portfolio of the highest performance Digitizers, PC oscilloscope software, powerful SDKs for custom application development, and turnkey integrated PC-based measurement systems.

GaGe is a product brand of Vitrek, a USA fully accredited ISO 9001:2015 quality certified and ISO 17025 calibration certified company.

APPLICATIONS

Wideband Signal Analysis

Wideband Stimulus / Response Test

Satellite Communications Test

Radar Design and Test

Electronic Warfare (EW) Test

Signals Intelligence (SIGINT)

Spectrum Monitoring

Ultrasound Imaging

Non-Destructive Testing (NDT)

Mass Spectroscopy

Time of Flight (ToF)

Light Detection and Ranging (LiDAR)

Life Sciences

Particle Physics

FEATURES

- High-Speed Software Selectable A/D Sampling Rates up to 6 GS/s

- Analog Input Bandwidth up to 1.75 GHz with ±0.5 dB Flatness to 1.25 GHz

- Best ENOB, SNR, SFDR Dynamic Performance Over Wide Frequency Ranges:
    - True ENOBs of over 11-Bits for 14-Bit and 16-Bit Digitizers
    - True ENOBs of over 10-Bits for 12-Bit Digitizers
    - True ENOBs of over 7-Bits for 8-Bit Digitizers

- Up to 16 GB of Deep Onboard Digitizer Sample Memory

- Advanced Real-Time eXpert FPGA DSP Routines:
    - Signal Averaging, FFT, Optical Coherence Tomography (OCT)

- Up to 6 GB/s Gap-Free Real-Time Sustained PCIe Data Streaming Rates

- Stream Acquired Signal Data to GPU for In-Line Processing in Real-Time

- Stream Acquired Signal Data to Storage for Real-Time Recordings

- Ease of Integration with External or Reference Clock In & Clock Out

- External Trigger In & Trigger Out with Advanced Triggering Operations

- Large Channel Counts with Synchronized Sampling

- Programming-Free Operation with GaGeScope PC Oscilloscope Software

- Programming-Free IF Recording & Playback with DsScope\DsScopeView

- Programming-Free RF Recording & Playback with SpectraScopeRT\SpectraViewRT

- Software Development Kits Available for C/C#, Python, LabVIEW & MATLAB

- Windows and Linux Operating Systems Supported

CompuScope Digitizer PCI Express (PCIe) Card Specification Matrix

| Spec	8-Bit		12-Bit	14-Bit		16-Bit		
	COBRA	COBRAMAX	EON	RAZOREDGE	RAZORPLUS	RAZOREDGE	RAZORPLUS	RAZORMAX
US Starting $	$7,575	$8,625	$16,750	$6,750	$8,175	$7,425	$8,850	$10,475
Performance								
A/D Resolution	8-Bit	8-Bit	12-Bit	14-Bit	14-Bit	16-Bit	16-Bit	16-Bit
# of Channels (CH) per Card	1 or 2	1 or 2	1 or 2	2	2	2	2	2 or 4
Maximum Sampling Rate Per Channel	2 GS/s: 1 CH 1 GS/s: 2 CH	4 GS/s: 1 CH 2 GS/s: 2 CH	6 GS/s: 1 CH 3 GS/s: 2 CH	250 MS/s	500 MS/s	250 MS/s	500 MS/s	1 GS/s or 500 MS/s
Minimum Sampling Rate	2 kS/s	5 kS/s	1 kS/s	1 kS/s	1 kS/s	1 kS/s	1 kS/s	1 kS/s
# of Software Selectable A/D Rates	20	19	27	21	30	21	30	31
Onboard Sample Memory	2 GS (2 GB) to 16 GS (16 GB)	2 GS (2 GB) to 16 GS (16 GB)	2 GS (4 GB) to 4 GS (8 GB)	4 GS (8 GB)	4 GS (8 GB)	4 GS (8 GB)	4 GS (8 GB)	4 GS (8 GB)
Input Channels								
Connectors	SMA	SMA	SMA	SMA	SMA	SMA	SMA	SMA
Impedance	50 Ω	50 Ω	50 Ω	50 Ω & 1M Ω	50 Ω & 1M Ω	50 Ω & 1M Ω	50 Ω & 1M Ω	50 Ω
Coupling	DC or AC	DC or AC	DC or AC	DC or AC	DC or AC	DC or AC	DC or AC	DC or AC
Bandwidth	500 MHz	1.5 GHz	1.75 GHz	125 MHz or 75 MHz	250 MHz or 150 MHz	125 MHz or 75 MHz	250 MHz or 150 MHz	600 MHz or 300 MHz
Voltage Ranges	±50 mV to ±5 V	±50 mV to ±5 V	±100 mV to ±5 V	±100 mV to ±5 V	±100 mV to ±5 V	±100 mV to ±5 V	±100 mV to ±5 V	±240 mV or ±1 V
Triggering								
# of Trigger Engines	Up to 5 Independent	Up to 5 Independent	Up to 5 Independent	Up to 5 Independent	Up to 5 Independent	Up to 5 Independent	Up to 5 Independent	Up to 9 Independent
Trigger Slope	Positive or Negative	Positive or Negative	Positive or Negative	Positive or Negative	Positive or Negative	Positive or Negative	Positive or Negative	Positive or Negative
Trigger Source	CH1 or CH2, EXT, Software	CH1 or CH2, EXT, Software	CH1 or CH2, EXT, Software	CH1 or CH2, EXT, Software	CH1 or CH2, EXT, Software	CH1 or CH2, EXT, Software	CH1 or CH2, EXT, Software	CH1 to CH4, EXT, Software
PCI Express								
Card Interface	PCIe Gen2 x8	PCIe Gen2 x8	PCIe Gen3 x8	PCIe Gen3 x8	PCIe Gen3 x8	PCIe Gen3 x8	PCIe Gen3 x8	PCIe Gen3 x8
Max. Sustained PCIe Streaming Rate	2 GB/s	2 GB/s	6 GB/s	1 GB/s	2 GB/s	1 GB/s	2 GB/s	5.2 GB/s
Single Slot Card Size	Full Height, Full Length	Full Height, Full Length	Full Height, ¾ Length	Full Height, ¾ Length	Full Height, ¾ Length	Full Height, ¾ Length	Full Height, ¾ Length	Full Height, ¾ Length

Please refer to product model datasheets for more detailed specifications. Information above is provided as a summary and is subject to change.

Data Acquisition Software
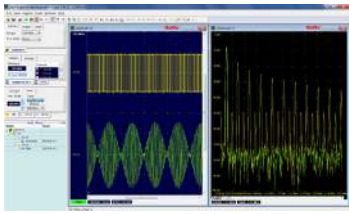
PC Oscilloscope App

GaGeScope is a PC oscilloscope application that allows users to control our advanced digitizers quickly and easily without having to write a single line of code. Data can be displayed, analyzed, printed, and saved with an easy-to-use Windows-based user interface. GaGeScope Lite Edition is included with all GaGe digitizers.
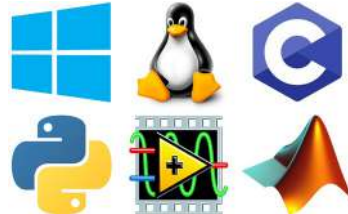
Software Development Kits

GaGe provides a complete library of software development kits (SDKs) for C/C#, Python, LabVIEW, and MATLAB included with all GaGe digitizers. The SDKs provide several programming examples illustrating the use of digitizer hardware in different operating modes to serve as a starting point for users to develop customized applications optimized for their specific requirements.
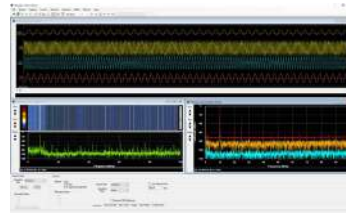
IF Signal Recording App

DsScope is a Windows based PC oscilloscope application that requires no programming for digitizer operation, display acquired signal data for analysis, and conduct IF real-time streaming signal recordings to storage with live monitoring. Analysis displays include Time Domain, Frequency Spectrum, and Spectrogram.
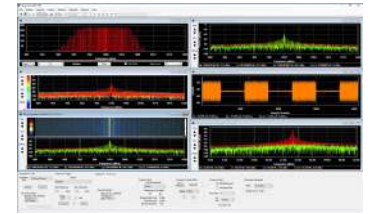
RF Signal Recording App

SpectraScopeRT is a Windows based spectrum analyzer application that requires no programming and allows for integrated operational control of both the downconverter receiver and the digitizer for signal capture, analysis, and conduct RF real-time streaming signal recordings with live monitoring. Any tuner, downconverter, or receiver with an IF output or a virtual receiver is supported.

Digital Signal Processing

eXpert FPGA DSP

Optional firmware features that allow for signal processing analysis, or other specific functionality, to be performed on the digitizer hardware itself within its onboard Field Programmable Gate Array (FPGA). Features include PCIe Data Streaming, Signal Averaging, FFT, OCT, or custom designed for application requirements.

GPU CUDA Processing

Stream acquired data from GaGe high-speed digitizers to high-performance GPUs for signal processing and data recording in real-time. C SDK ready-made compiled sample programs illustrate PCIe data streaming to GPU and effective exploitation of GPU parallelized vector processing to attain 10X ~ 100X faster analysis rates than host CPU.

High-Speed Signal Recording Systems

GaGe has a long history of providing high-speed real-time signal acquisition, processing, and recording systems on PC-based platforms. This expertise saves customers time and eliminates uncertainties and risks with self-integrated systems.

By leveraging the latest COTS computer components, engineers can design and deliver best-of-class high-performance real-time systems with typically less development time and less cost than closed proprietary based systems.

Customizable high-performance PC workstations provide up to 160 PCIe Gen5 dedicated bandwidth lanes to maximize operational performance of multiple instrument cards and high-speed storage with capacities up to 368 TB.

GaGe Sales

Phone : (815) 838-0005
Email : sales-gage@vitrek.com

To find your local sales representative or distributor visit:

https://vitrek.com/sales-network

GaGe is a product brand of Vitrek, a USA fully accredited ISO 9001:2015 quality certified and ISO 17025 calibration certified company.

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USA

325 Washington Ave Extension
Albany, NY 12205
USA

1 Provost, Suite 200
Lachine, QC, H8S 4H2
Canada

Warranty

Standard two years parts and labor.

Unless otherwise specified, all dynamic performance specifications have been qualified on engineering samples. All specifications are subject to change without notice.

Datasheet Revision 5 – 08/31/2023

GaGe Volume Embedded OEM Program

GaGe values our embedded OEM customers and understands their needs to complete projects on time and within budget. With our reliable, high-quality products and support, our OEM customers gain valuable time-to-market and save tens of thousands of development dollars. Our knowledgeable support staff assists OEM customers through all product lifecycle stages from development to production. This OEM-friendly philosophy is why we have so many satisfied OEM customers around the world.

The GaGe OEM Program consists of two tier levels: Gold and Platinum

- **Gold Tier Level**

  All established and identified GaGe OEMs enter the program at the Gold Tier Level where GaGe can help the OEM "focus on their added value" while we provide our expertise of integrating GaGe instrumentation products into customized PC solutions, including hardware, software, and firmware. The Gold Tier Level includes the following feature benefits:

  - No charge supplied product evaluation unit(s) and Software Development Kits (SDKs) for qualification and initial development.

  - No charge telephone support through the evaluation.

  - Negotiated factory and/or on-site technical support including custom hardware/software development.

- **Platinum Tier Level**

  Once the OEM has specified a GaGe product ready for full production integration and release, they then move to the Platinum Tier Level that includes the following feature benefits:

  - Volume discount pricing is established.

  - OEM specification is established and corresponding product is given a unique part number to ensure quality tracking and Engineering Change Order (ECO) control.

  - All software tools are provided on a site-license basis.

  - A Smart Spares Pool (safety stock) program is established if the OEM application requires one. This ensures that a specified quantity of product is always kept on stock on a ready-to-ship basis.

We encourage you to contact GaGe and discuss your potential volume embedded OEM application in more detail with our engineering team.