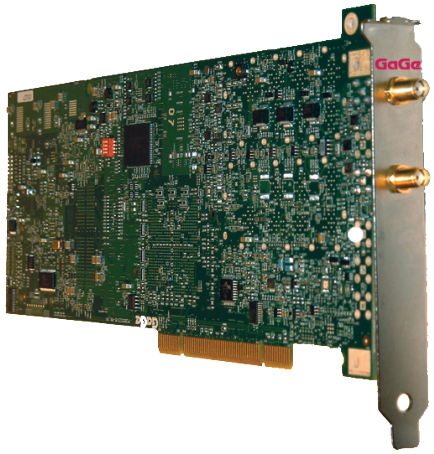
BASE-8 CompuScope

High-Speed PCI Digitizer for OEMS



The BASE-8 CompuScope is the latest high-speed 8-bit digitizer from GaGe that provides a powerful base platform for OEM applications. BASE-8 leverages GaGe digitizer expertise and performance at a very competitive price.

FEATURES

- 1 digitizing channel*
- 500 MS/s maximum sampling rate*
- 8 bits vertical resolution
- 200 MHz bandwidth
- Full-size, single-slot PCI card
- Timing synchronization with External Trigger Input
- Optional 8, 64 or 256 MegaSamples Memory Upgrade
- Programming-free operation with GageScope® oscilloscope software
- Software Development Kits available for LabVIEW, MATLAB, C/C# and more
- Custom on-board eXpert™ (FPGA) signal processing functionality available

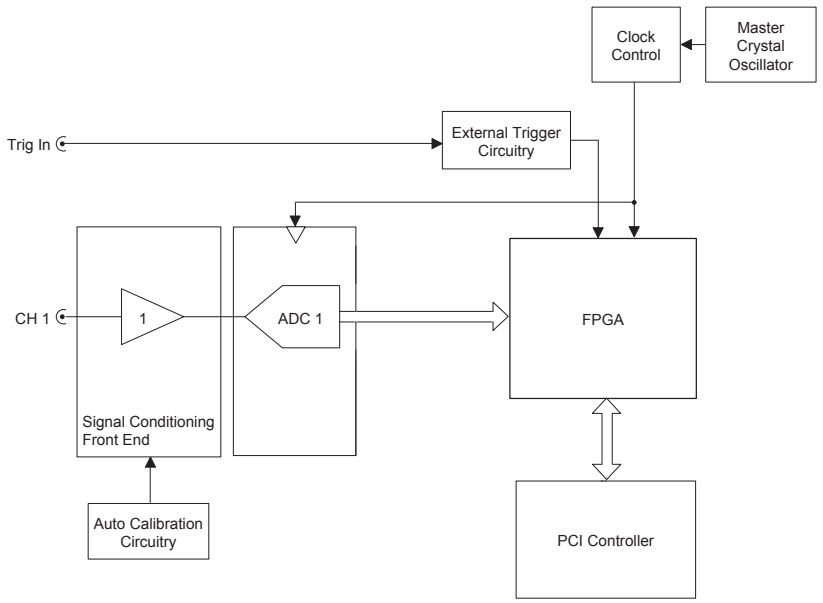
* Higher channel counts and sampling rates available

The BASE-8 CompuScope is an 8-bit analog-to-digital PCI card with a sampling speed of 500 MS/s. The BASE-8 CompuScope is ideal for Original Equipment Manufacturers (OEMs) who require analog-to-digital conversion in their systems and need to keep the cost as low as possible.

APPLICATIONS

Manufacturing Testing
Component Testing
Oscilloscope Replacement
Automated Test Equipment
Synthetic Instrumentation
Embedded Digitizer
Military & Aerospace
Ultrasonic Non-Destructive Testing
Wireless Communications
Radar/Lidar/Laser Optics

BASE-8 CompuScope Simplified Block Diagram



A/D SAMPLING

Resolution:	8 bits
Maximum Sampling Rate:	500 MS/s
Sampling Rates:	500 MS/s, 250 MS/s, 125 MS/s, 100 MS/s, 50 MS/s, 25 MS/s, 10 MS/s, 5 MS/s, 2 MS/s, 1 MS/s, 500 kS/s, 200 kS/s, 100 kS/s, 50 kS/s, 20 kS/s, 10 kS/s, 5 kS/s, 2 kS/s

ACQUISITION MEMORY

Available on-board memory:	128 KiloSample (8, 64, or 256 MegaSample optional)

INPUT CHANNELS

Number of Inputs:	1
Connector:	SMA
Input Voltage Ranges:	±5 V, ±2 V, ±1 V, ±500 mV, ±200 mV, ±100 mV, ±50 mV
DC Accuracy:	±1 %
Protection:	Diode-clamped
Absolute Maximum Input Voltage:	6 V RMS
Impedance:	50 Ω
Coupling:	AC or DC
ENOB (see Note 1):	7.4
SNR (see Note 1):	46 dB
THD (see Note 1):	-60 dB
SINAD (see Note 1):	46 dB
SFDR (see Note 1):	60 dB
DC Coupled Bandwidth:	DC to 200 MHz
AC Coupled Bandwidth:	20 kHz to 200 MHz
Flatness:	Within ±1 dB of ideal response to 100 MHz signal frequency

DC OFFSET

A software-adjustable DC offset voltage may be independently applied to each input channel in order to optimize input range usage.

Span:	±100 % on all input ranges
Accuracy:	1 %

TRIGGERING

Source:	CH 1, EXT or manual
Trigger Level Accuracy:	Internal: ±2% of Full Scale External: ±10% of Full Scale
Slope:	Positive or Negative
Sensitivity:	5% of Full Scale Signal swing must be at least 5% of full scale in order to cause a trigger event. Smaller signals are rejected as noise.
Post-Trigger Data:	64 points minimum May be increased with 64 point resolution.
Trigger Engines:	2 per channel, 1 for External Trigger
Source Combination:	All trigger source combinations may be logically OR'ed together

TRIGGER IN (EXTERNAL TRIGGER)

Impedance:	2 kΩ
Amplitude:	Absolute Maximum 6 V RMS
Voltage Range:	±1 V, ±5 V
Bandwidth:	>100 MHz
Coupling:	DC
Connector:	SMA

INTERNAL CLOCK

Accuracy: ±1 ppm (0 to 50°C ambient)

MULTIPLE RECORD

Pre-trigger Data: Up to almost full on-board memory

Record Length: 64 points minimum.
May be increased with 64 points resolution

TIMESTAMPING

Resolution: One sampling interval

Counter turnover: >24 hours continuous

CARD SIZE

Single-slot, full-length PCI

SYSTEM REQUIREMENTS

PCI-based computer, minimum Pentium II 500 MHz, with at least one free full-length PCI slot, 128 MB RAM, 1 GB hard drive.

POWER CONSUMPTION (IN WATTS, PER CARD)

DC Supply Voltage	Typical
+5 Volts	7.2 W
- 5 Volts	0 W
+3.3 Volts	10.4 W
+12 Volts	0.5 W
-12 Volts	0.4 W

Note: The above values are for the lowest memory BASE-8. When memory options are purchased, the consumption on the +5 Volt supply increases by 0.2 Watts and the consumption on the +3.3 Volt supply increases by 0.1 Watts.

PCI BUS INTERFACE

Bus Width: 32 bits

Bus Speed: 33 MHz

Compatibility: PCI-compliant, v.2.2
Also operates in v.2.1 systems that supply 3.3 V to PCI slot

MULTI-CARD SYSTEMS

Operating Mode: Multiple Independent

Number of Cards: Limited only by backplane

OPERATING SYSTEMS

Windows Vista: 32-bit and 64-bit

Windows XP: All Versions

Windows 2000: SP1 or higher

APPLICATION SOFTWARE

GageScope: Windows-based software for programming-free operation

LITE Edition: Included with purchase, provides basic functionality

Standard Edition: Provides limited functionality of advanced analysis tools, except for Extended Math

Professional Edition: Provides full functionality of all advanced analysis tools

SOFTWARE DEVELOPMENT KITS (SDK)

CompuScope SDK for C/C# for Windows*

CompuScope SDK for MATLAB for Windows

CompuScope SDK for LabVIEW for Windows

*C/C# SDK is compatible with LabWindows/CVI 7.0+ compiler.
Visual Basic.NET support available with purchase of C/C# SDK.

Contact your GaGe Sales Agent for information on Linux support.

WARRANTY

One year parts and labor.

Certificate of NIST Traceable Calibration is included.

All specifications subject to change without notice.

Notes to specifications:

1) Measured at maximum sample rate using a 10 MHz sine wave with an amplitude of 95% of full scale. No on-board filtering is used.

ORDERING INFORMATION

Hardware & Upgrades

BASE-8 CompuScope:	BS8-000-001
8 MS Memory Upgrade	BS8-181-001
64 MS Memory Upgrade	BS8-181-004
256 MS Memory Upgrade:	BS8-181-006
Set 1 Cable SMA to BNC	ACC-001-031
Set 4 Cable SMA to BNC	ACC-001-033

GageScope® Software

GageScope: Lite Edition	Included
GageScope: Standard Edition (with Purchase of CompuScope Hardware)	300-100-351
GageScope: Professional Edition (with Purchase of CompuScope Hardware)	300-100-354

Software Development Kits (SDKs)

GaGe SDK Pack on CD	200-113-000
CompuScope SDK for C/C#	200-200-101
CompuScope SDK for MATLAB	200-200-102
CompuScope SDK for LabVIEW	200-200-103

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