

We offer the widest range of high-speed and high-resolution digitizers available on the market today. Our powerful PC-based instrumentation products allow you to create reliable, flexible and high-performance solutions quickly and easily.

Reduce development time and costs for testing complex applications such as radar, wireless communications, spectroscopy, etc. by using our GageScope software or SDKs.

APPLICATIONS

I&Q measurements
Wireless device design verification
Communications equipment production test
RF ATE systems
Radar system design and test
Lidar systems

CompuScope 14105 Comm Analyzer for communications design and test

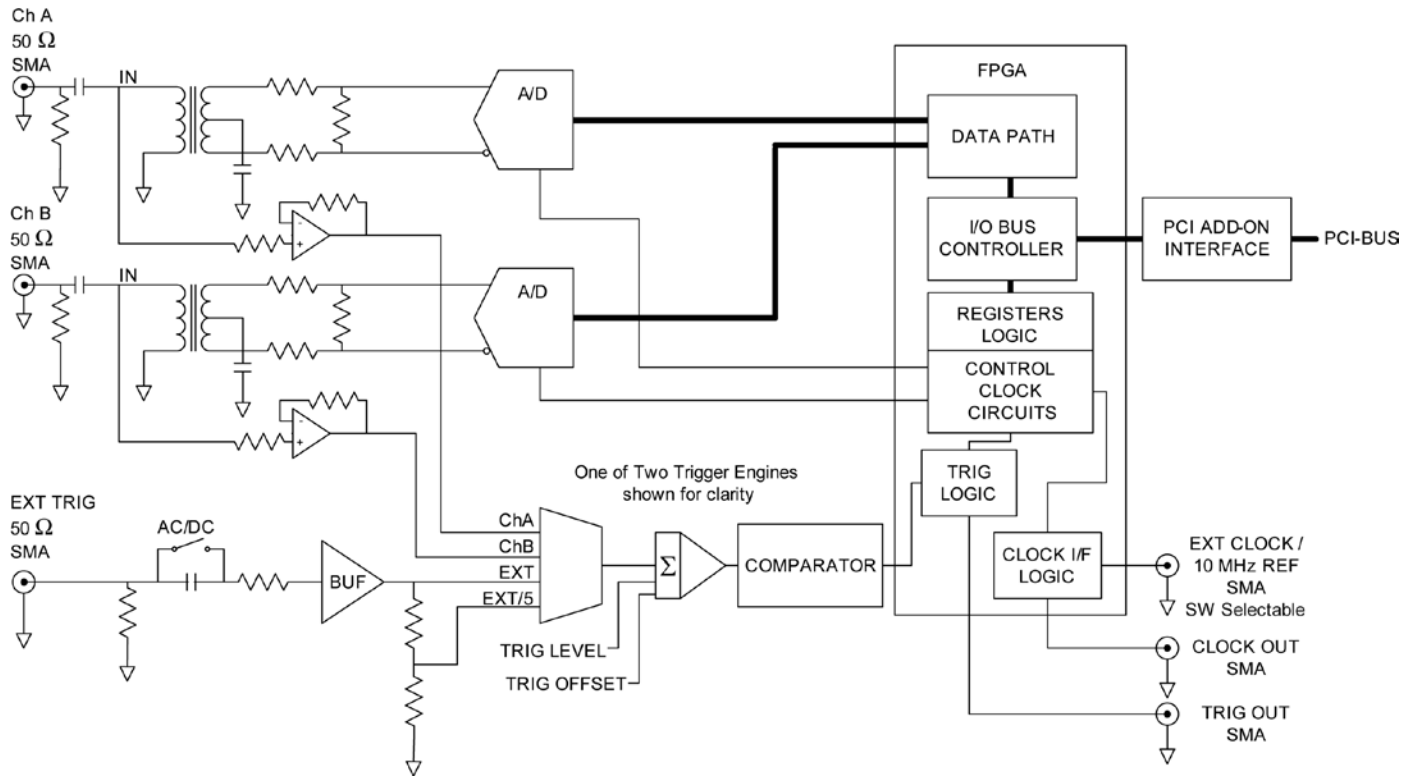


Digitizer module conceived and designed for critical communications and RF signal capture and analysis.

FEATURES

- 105 MS/s sampling on 2 synchronous channels
- 14 bits nominal resolution, 12 ENOB
- 180 kHz to 230 MHz bandwidth
- Full-size, single-slot PCI card
- Now available with up to 2 GigaSamples of on-board acquisition memory!
- Transformer-coupled AC inputs, 50 Ohm impedance
- 32 bits, 66 MHz PCI standard for 200 MB/s transfer to PC memory
- Programming-free operation with GageScope® oscilloscope software
- Software Development Kits available for LabVIEW, MATLAB, C/C#

CompuScope 14105 Simplified Block Diagram



A/D SAMPLING

Number of Inputs:	2
Resolution:	14 bits
ENOB:	11.48 bits
SNR:	70.9 dB (input frequency of 9.85 MHz)
SFDR:	86.9 dB (input frequency of 9.85 MHz)
SINAD:	70.7 dB (input frequency of 9.85 MHz)
Sampling Rates, Channels A and B simultaneously, or A or B only:	105 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
Connector:	SMA
Impedance:	50 Ω
Insertion loss:	0.8 dB @ 10 MHz 1.0 dB @ 200 MHz
Coupling:	Transformer-coupled
Bandwidth (see Note 1):	180 kHz to 230 MHz
Flatness (see Note 1):	Within 1 dB of ideal response to > 100 MHz
Typical Accuracy:	No missing codes - Guaranteed
Offset Error:	+1.2 mV
Gain Error:	0 % of Full Scale
DNL:	± 0.5 LSB
INL:	± 1.5 LSB
Input Voltage Range:	0.5 V RMS
Absolute Maximum Amplitude:	± 5 Volts (continuous)

ACQUISITION MEMORY

Data Storage:	In on-board memory
Memory Depth per channel:	8M, 64M, 512M, 1G (14-bit samples in 16-bit words)
One-Channel Mode (Channel A or B only):	Up to full on-board memory

TRIGGERING

Trigger Engines:	2 per system
Source:	Ch. A, Ch. B, EXT, or Software; software-selectable
Input Combination:	1, 2, 1 or 2
Type:	Analog triggering
Trigger Level Accuracy:	$\pm 5\%$ of full scale
Slope:	Positive or Negative, software-selectable
Sensitivity:	$\pm 10\%$ of full scale This implies that signal amplitude must be at least 20% of full scale to cause a trigger to occur. Smaller signals are rejected as noise.
Post Trigger Data:	128 (256) points minimum. Can be defined with a 64 (128) point resolution in dual (single) channel mode.
Maximum Record Length:	Maximum memory

INTERNAL CLOCK

Source:	clock oscillator
Accuracy:	± 25 ppm (0 to 70° C)

EXTERNAL TRIGGER

Impedance:	50 Ω
Amplitude:	Absolute Maximum ± 15 V
Voltage Ranges:	± 1 V, ± 5 V; software-selectable
Bandwidth:	200 MHz
Coupling:	AC or DC
Connector:	SMA

TRIGGER OUT

Impedance:	50 Ω
Amplitude:	0-2.5 V (TTL)
Connector:	SMA

EXTERNAL CLOCK

Maximum Frequency:	105 MHz
Minimum Frequency:	30 MHz
Signal Level:	Minimum 1 V RMS Maximum 2 V RMS
Termination Impedance:	50 Ω
Sampling Edge:	Rising
Duty Cycle:	50% \pm 5%
Connector:	SMA
Coupling:	AC

EXTERNAL REFERENCE

The External Reference timebase is used to synchronize the Internal Sampling Clock.

Frequency:	10 MHz; software-selectable
Signal Level:	Minimum 1 V RMS Maximum 2 V RMS
Impedance:	50 Ω
Sampling Edge:	Rising
Duty Cycle:	50% \pm 5%
Connector:	SMA

CLOCK OUT

Maximum Frequency:	105 MHz
Minimum Frequency:	30 MHz (from External Clock); 50 kHz (from Internal Clock)
Output Frequency:	Equal to the sample rate
Signal Level:	0-2.5 V (TTL)
Impedance:	50 Ω
Duty Cycle:	50% \pm 5%
Connector:	SMA

MULTIPLE RECORD

Pre-trigger Data:	Up to virtually full record length
Record Length:	128 points minimum; can be defined with a 64 points resolution
Maximum # Trigger:	8,388,608

TIMESTAMPING

Resolution:	7.2 ns
Counter turnover:	24 hours continuous

SYSTEM REQUIREMENTS

PCI-based computer, minimum Pentium II 500 MHz, with at least one free full-length PCI slot, 128 MB RAM, 100 MB hard disk.

SIZE

Plugs into one full-length PCI slot, 13"x4.1", for all memory configurations

POWER (WATTS)

+5 V		
	Worst case	Typical
All Memory Depths	18.5	18.5
+3.3 V		
	Worst case	Typical
All Memory Depths	5.9	5.9
+12 V		
	Worst case	Typical
All Memory Depths	0.0	0.0
-12 V		
	Worst case	Typical
All Memory Depths	0.0	0.0

COOLING SYSTEM

Power Down:	Software-controlled
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PCI BUS INTERFACE

Plug-&-Play:	Fully supported
Bus Mastering:	Fully supported
Scatter-Gather:	Supported in Driver
Bus Width:	32 bits
Bus Speed:	66 MHz or 33 MHz
Bus Throughput:	200 MB/s to PC Memory (66 MHz PCI; dependent on motherboard and number of PCI-PCI bridges)
Compatibility:	PCI-compliant v.2.2 systems. Also v.2.1 systems that supply 3.3 V to PCI slot.

OPERATING SYSTEMS SUPPORTED

Windows 2000**/XP	CompuScope Driver version 4.xx.xx
** 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;
specifications are not guaranteed under all possible combinations of modes of operation.

Notes to specifications:

1) Detailed characterization curves pending and will be available upon request.

ORDERING INFORMATION

Hardware & Upgrades

CompuScope 14105-16M	143-001-002
CompuScope 14100-128M	143-001-004
CompuScope 14105-1G	143-001-006
CompuScope 14105-2G	143-001-007
CS14105 Memory Upgrades	Contact Factory

eXpert™ Firmware Options

eXpert Signal Averaging Firmware Option	250-181-001
eXpert FIR Filtering Firmware Option	250-181-002
eXpert Peak Detection Firmware Option	250-181-003
eXpert Firmware Option bundle (Signal Averaging, FIR Filtering and Peak Detection)	888-100-026

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

All Upgrades performed at the factory.

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