ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *National Instruments PCI-5922* at our website: *Click HERE*

24-Bit Flexible-Resolution Digitizers

NI 5922 *NEW!*

- From 24 bits up to 500 kS/s to 16 bits at 15 MS/s
- 2 simultaneously sampled channels
- ±1 and ±5 V input ranges
- -114 dBc SFDR
- -120 dBFS rms noise
- -170 dBFS/Hz noise density
- Deep onboard memory up to 256 MB/channel
- 50 Ω or 1 MΩ software-selectable input impedance
- Integrated antialias protection for all sampling rates

Calibration

- Linearity, gain, offset, and input bias current self-calibration
- 2-year external calibration interval

Operating Systems

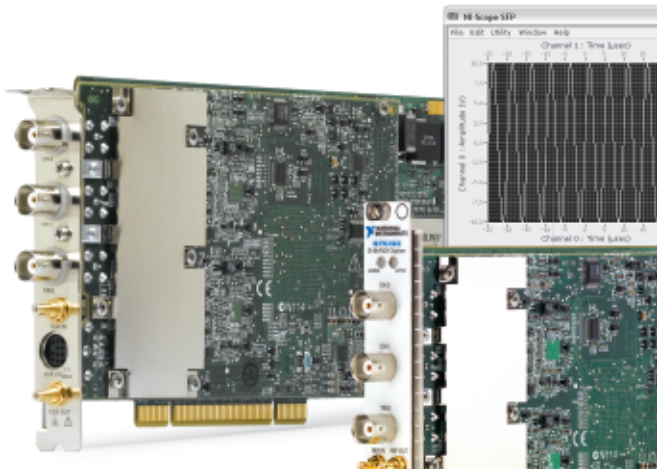
- Windows 2000/XP
- LabVIEW Real-Time
- Linux®

Recommended Software

- LabVIEW
- LabVIEW Toolkits
  - Spectral Measurements Toolkit
  - Modulation Toolkit
  - Sound and Vibration Toolkit
- LabWindows™/CVI
- Measurement Studio
- SignalExpress

Driver Software (included)

- NI-SCOPE
- Scope Soft Front Panel



Overview

Applications
Communications
xDSL
Wireless communications
Baseband I & Q
Biomedical and Scientific Research
Ultrasonic medical imaging
Mass spectrometry
Particle physics
Aerospace/Defense
RADAR, SONAR, and LIDAR
Satellite
Signal intelligence
Consumer Electronics
Performance Audio Test

National Instruments 5922 flexible-resolution digitizers feature two simultaneously sampled channels, with variable resolution. NI 5922 digitizers can trade sampling rate for resolution to sample anywhere from 24 bits at rates less than 500 kS/s to 16 bits at 15 MS/s. By combining an NI 5922 with software such as LabVIEW, you can create numerous different types of instruments, such as DC and rms voltmeters, audio analyzers, frequency counters, spectrum analyzers, IF digitizers, or I/Q modulation analyzers. NI 5922 digitizers have low noise as well as low distortion, which is possible because of the NI Flex II ADC.

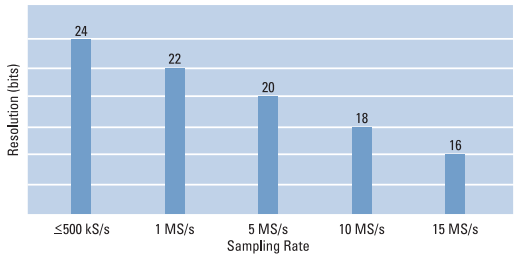


Figure 1. Frequency versus Resolution of NI 5922 Flexible-Resolution Digitizers

Deep Onboard Memory

- 8, 32, or 256 MB/channel
- Capture more than 400,000 triggered waveforms with multirecord acquisition
- Stream data continuously from onboard memory to host memory or disk

Timing and Synchronization

Because NI 5922 digitizers are built on the SMC architecture, you can synchronize two or more digitizers for high-channel-count applications, and build mixed-signal test systems using SMC-based digitizers, arbitrary waveform generators, and digital waveform generator/analyzers using TClk technology.

Software

- IVI-compliant NI-SCOPE driver for LabVIEW, LabWindows/CVI, and Microsoft C++ and Visual Basic with more than 50 built-in measurements
- Scope Soft Front Panel for interactive control
- NI Spectral Measurements Toolkit for sophisticated frequency-domain measurements in communications, signal intelligence, and avionics applications

Ordering Information

NI PCI-5922 .....779659-0M[1]

NI PXI-5922 .....779153-0M[1]

[1]M (memory per channel): 1 (8 MB), 2 (32 MB), 3 (256 MB)

Includes NI-SCOPE and Scope Soft Front Panel. The 32 and 256 MB/channel models also include the Spectral Measurements Toolkit.

BUY NOW!

For complete product specifications, pricing, and accessory information, call 800 813 3693 (U.S.) or go to **ni.com/digitizers**.

NATIONAL INSTRUMENTS™

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Specifications

These specifications are valid for 0 to 55 °C, unless otherwise stated.

Acquisition System

Number of channels ..... 2 simultaneously sampled single-ended or unbalanced differential or 1 differential channel

Vertical resolution ..... 16 to 24 bits

Sampling Rate	Resolution (bits)
50 to 500 kS/s	24
1 MS/s	22
5 MS/s	20
10 MS/s	18
15 MS/s	16

Alias-free bandwidth ..... 0.4 x sampling rate

Onboard sample memory ..... 8, 32, or 256 MB per channel (2, 8, or 64 million samples)

Pretrigger and posttrigger data points ..... 0 to 100% of full record length

Input impedance ..... 50 Ω and 1 MΩ ll 40 pF, software-selectable

Full-scale input range ..... 2 V_{pp} (±1 V) and 10 V_{pp} (±5 V)

Multiple Record Acquisition (0 to 100% pretrigger and posttrigger data)	
Memory/Channel	Maximum Number of Records on Board
8 MB	13,107
32 MB	100,000[1]
256 MB	100,000[1]

[1]Infinite in streaming configuration.

Maximum input overload ..... 50 Ω: 7 V_{rms} with ⏐peaks⏐ ≤10 V, 1 MΩ: ⏐peaks⏐ ≤42 V

Input coupling ..... AC, DC, GND

AC coupling cutoff frequency (-3 dB) ..... 90 Hz

Accuracy

DC Accuracy

Note: Measured with 1 MΩ input impedance within ±5 °C of self-calibration temperature.

Range	50 Ω and 1 MΩ
2 V_{pp} (±1 V)	±(500 ppm (0.05%) of input + 50 µV)
10 V_{pp} (±5 V)	±(500 ppm (0.05%) of input + 100 µV)

Passband Flatness (referenced at DC)

Sampling Rate	50 Ω and 1 MΩ, ±1 V and ±5 V ranges
1 MS/s	0.03 dB
5 MS/s	0.06 dB
10 MS/s	0.15 dB
15 MS/s	0.3 dB

AC amplitude accuracy (typical at 1 kHz) ..... ±600 ppm (0.06%)

Channel-to-Channel Crosstalk

Input Frequency	Crosstalk
100 kHz	≤-110 dB
1 MHz	≤-100 dB
6 MHz	≤-80 dB

CMRR

Unbalanced differential mode ..... 50 dB, up to 1 kHz

Differential mode ..... See Figure 2

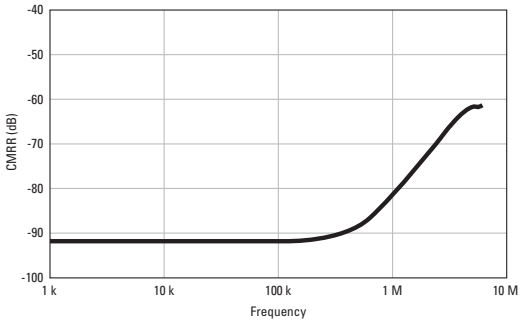


Figure 2. CMRR versus Frequency for the PXI-5922 in Differential Mode

Spectral Characteristics (typical)

Dynamic Performance (-1 dBFS input signal)

10 V_{pp} (±5 V) Input Range				
Input Frequency	SFDR (dBc)	THD (dBc)	SINAD (dB)	SNR (dB)
10 kHz	-114	-112	–	–
100 kHz	-110	-108	105	108
1 MHz	-96	-94	89	91

Note: Sampling rate is 1 MS/s for 100 kHz input and 10 MS/s for 1 MHz input.

2 V_{pp} (±1 V) Input Range				
Input Frequency	SFDR (dBc)	THD (dBc)	SINAD (dB)	SNR (dB)
10 kHz	-109	-107	–	–
100 kHz	-103	-101	99	104
1 MHz	-92	-90	87	90

Rms Noise

	10 V_{pp} (±5 V) Input Range		2 V_{pp} (±1 V) Input Range	
Sample Rate	(dBFS)	(μV_{rms})	(dBFS)	(μV_{rms})
50 kS/s	-120	3.4	-117	1.0
100 kS/s	-118	4.3	-115	1.2
1 MS/s	-108	13	-104	4.2
5 MS/s	-101	31	-98	8.7
10 MS/s	-91	92	-91	20
15 MS/s	-79	401	-79	80

Phase noise density (5 MHz input) ..... <-133 dBc/Hz at 10 kHz, <-145 dBc/Hz at 100 kHz

Timebase System

Timebase options ..... Internal

Total sample clock jitter ..... ≤3 ps_{rms}

Note: Includes effects of converter aperture and clock circuitry jitter from 100 Hz to 1 MHz.

Internal

Internal sample clock frequency ..... 120 MS/s sampling rate with decimation by n where 8 ≤ n ≤ 2400

Timebase accuracy, typical ..... ±50 ppm (±0.0050%)

External

External reference clock sources ..... CLK IN (SMB connector), PXI backplane 10 MHz

External reference clock range ..... 1 to 20 MHz in 1 MHz increments

Trigger System

Modes ..... Edge, hysteresis, window, digital, immediate, software

Sources ..... CH 0, CH 1, TRIG, PXI_Trig <0..6>, PFI <0:1>, PXI star, software

Slope ..... Rising or falling

Hysteresis ..... Fully programmable

Sensitivity ..... CH 0 and CH 1: 2% FS
TRIG: 0.3 V_{pp} typical up to 1 MHz

Time resolution ..... One sample clock period

Rearm time ..... 144 x sample clock period

Holdoff ..... From rearm time to (2^{32} -1) x sample clock period

External Trigger Channel (TRIG)

Impedance ..... 100 kΩ ll 52 pF

Range ..... ±2.5 V

Coupling ..... DC

Level accuracy ..... ±0.3 V up to 100 kHz

Power Requirements

	+3.3 VDC	+5 VDC	+12 VDC	-12 VDC	Total Power
PXI	2.0 A	1.4 A	0.33 A	0.28 A	20.9 W
PCI	2.0 A	2.5 A	0.45 A	0 A	24.5 W

Calibration

Self-calibration ..... Linearity, gain, offset, and input bias current

External calibration interval ..... 2 years

Certification and Compliances

CE Mark Compliance CE

See detailed specifications at ni.com/manuals.

For access to certifications, marks, and DoCs, visit ni.com/certification.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

NI Services and Support



NI has the services and support to meet your needs around the globe and through the application life cycle – from planning and development through deployment and ongoing maintenance. We offer services and service levels to meet customer requirements in research, design, validation, and manufacturing. Visit **ni.com/services**.

Training and Certification

NI training is the fastest, most certain route to productivity with our products. NI training can shorten your learning curve, save development time, and reduce maintenance costs over the application life cycle. We schedule instructor-led courses in cities worldwide, or we can hold a course at your facility. We also offer a professional certification program that identifies individuals who have high levels of skill and knowledge on using NI products. Visit **ni.com/training**.

Professional Services

Our Professional Services Team is composed of NI applications engineers, NI Consulting Services, and a worldwide National Instruments Alliance Partner program of more than 600 independent consultants and integrators. Services range from start-up assistance to turnkey system integration. Visit **ni.com/alliance**.

NATIONAL INSTRUMENTS™
Certified Alliance Partner

OEM Support

We offer design-in consulting and product integration assistance if you want to use our products for OEM applications. For information about special pricing and services for OEM customers, visit **ni.com/oem**.

Local Sales and Technical Support

In offices worldwide, our staff is local to the country, giving you access to engineers who speak your language. NI delivers industry-leading technical support through online knowledge bases, our applications engineers, and access to 14,000 measurement and automation professionals within NI Developer Exchange forums. Find immediate answers to your questions at **ni.com/support**.

We also offer service programs that provide automatic upgrades to your application development environment and higher levels of technical support. Visit **ni.com/ssp**.

Hardware Services

NI Factory Installation Services

NI Factory Installation Services (FIS) is the fastest and easiest way to use your PXI or PXI/SCXI combination systems right out of the box. Trained NI technicians install the software and hardware and configure the system to your specifications. NI extends the standard warranty by one year on hardware components (controllers, chassis, modules) purchased with FIS. To use FIS, simply configure your system online with **ni.com/pxiadvisor**.

Calibration Services

NI recognizes the need to maintain properly calibrated devices for high-accuracy measurements. We provide manual calibration procedures, services to recalibrate your products, and automated calibration software specifically designed for use by metrology laboratories. Visit **ni.com/calibration**.

Repair and Extended Warranty

NI provides complete repair services for our products. Express repair and advance replacement services are also available. We offer extended warranties to help you meet project life-cycle requirements. Visit **ni.com/services**.

NATIONAL INSTRUMENTS™

ni.com • 800 813 3693
National Instruments • info@ni.com

351446A-01 2006-7999-101-D

© 2006 National Instruments Corporation. All rights reserved. CVI, LabVIEW, Measurement Studio, National Instruments, National Instruments Alliance Partner, NI, ni.com, SCXI, and SignalExpress are trademarks of National Instruments. Other product and company names listed are trademarks or trade names of their respective companies.
A National Instruments Alliance Partner is a business entity independent from NI and has no agency, partnership, or joint-venture relationship with NI.
Linux® is the registered trademark of Linus Torvalds in the U.S. and other countries.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP