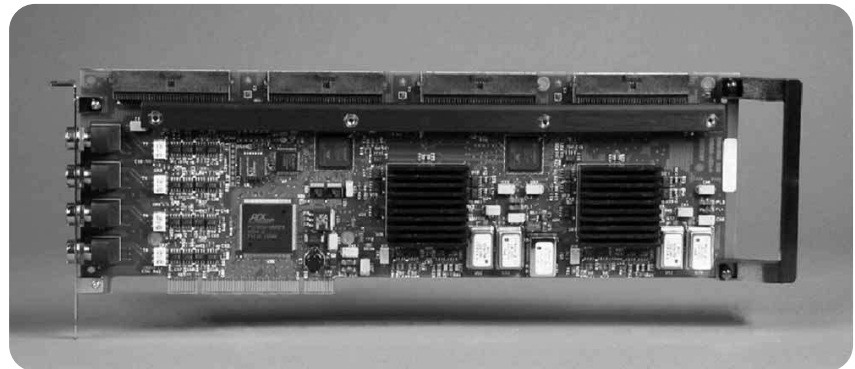
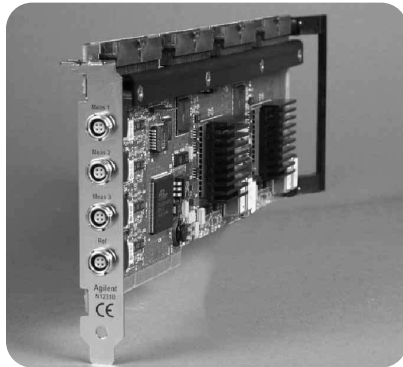


Agilent N1231B PCI Three-Axis Laser Board with External Sampling

Data Sheet



The Agilent N1231B PCI Three-Axis Laser Board with External Sampling is a register based PCI bus board that implements three axes of laser measurement for position monitoring and closed-loop servo control. There are four external sample inputs along with four data hold inputs that allow easy synchronization with user systems. Several threshold compare registers, with both hardware outputs and interrupt capability, can be used for travel limit and in window or out of window detection functions.

The dual mode hardware position outputs, controlled by the hold inputs, provide either a 32-bits per axis parallel or a 36-bit multiplexed interface to the 36-bit axis position data at rates up to 20 MHz. The user can programmatically access the externally sampled position and velocity data, as well as

software sampled position and velocity data, over the PCI bus at rates up to 100 kHz (3 axes of position and velocity) or 200 kHz (position or velocity only).

Features

- Measurement resolution of 0.15 nm ($\lambda/4096$) using Plane Mirror type interferometers
- Three axes of laser measurement on one board
- Four external sample inputs (1/axis + 1 system sample)
- Four external data hold inputs (for hardware position outputs)
- Eight Threshold compare registers with HW output and IRQ capabilities.
- 20 MHz, 36-bits per axis internal position update rate
- Flexible hardware IO with adjustable output rate (20 MHz max)
- Simple programming API (Windows NT4/2000/XP)
- Software sample rates up to 200 kHz (3 axes of data)
- Power Requirements (typical)
 - +5 Vdc ± 0.25 V / -0.125 V at approximately 2.8 Amps
 - +12 Vdc ± 0.5 V at approximately 50 milliamps
 - -12 Vdc ± 0.5 V at approximately 50 milliamps
- PCI Compliant
- Bus Interface: 33 MHz @ 3.3 or 5 Volt signal levels
- Data Transfers: 16 or 32 bit transfers
- IRQ: can generate IRQ on error, sample, or threshold conditions
- Board Size: 98 x 312 mm



Agilent Technologies

Agilent Technologies' Test and Measurement Support, Services, and Assistance

Agilent Technologies aims to maximize the value you receive, while minimizing your risk and problems. We strive to ensure that you get the test and measurement capabilities you paid for and obtain the support you need. Our extensive support resources and services can help you choose the right Agilent products for your applications and apply them successfully. Every instrument and system we sell has a global warranty. Support is available for at least five years beyond the production life of the product. Two concepts underlie Agilent's overall support policy: "Our Promise" and "Your Advantage."

Our Promise

Our Promise means your Agilent test and measurement equipment will meet its advertised performance and functionality. When you are choosing new equipment, we will help you with product information, including realistic performance specifications and practical recommendations from experienced test engineers. When you receive your new Agilent equipment, we can help verify that it works properly and help with initial product operation.

Your Advantage

Your Advantage means that Agilent offers a wide range of additional expert test and measurement services, which you can purchase according to your unique technical and business needs. Solve problems efficiently and gain a competitive edge by contracting with us for calibration, extra-cost upgrades, out-of-warranty repairs, and onsite education and training, as well as design, system integration, project management, and other professional engineering services. Experienced Agilent engineers and technicians worldwide can help you maximize your productivity, optimize the return on investment of your Agilent instruments and systems, and obtain dependable measurement accuracy for the life of those products.



Agilent Email Updates

www.agilent.com/find/emailupdates

Get the latest information on the products and applications you select.

Agilent T&M Software and Connectivity

Agilent's Test and Measurement software and connectivity products, solutions and developer network allows you to take time out of connecting your instruments to your computer with tools based on PC standards, so you can focus on your tasks, not on your connections. Visit **www.agilent.com/find/connectivity** for more information.

For more information on Agilent Technologies' products, applications or services, please contact your local Agilent office. The complete list is available at:

www.agilent.com/find/contactus

Phone or Fax

United States:

(tel) 800 829 4444

(fax) 800 829 4433

Canada:

(tel) 877 894 4414

(fax) 905 282 6495

China:

(tel) 800 810 0189

(fax) 800 820 2816

Europe:

(tel) 31 20 547 2111

Japan:

(tel) (81) 426 56 7832

(fax) (81) 426 56 7840

Korea:

(tel) (080) 769 0800

(fax) (080)769 0900

Latin America:

(tel) (305) 269 7500

Taiwan:

(tel) 0800 047 866

(fax) 0800 286 331

Other Asia Pacific Countries:

(tel) (65) 6375 8100

(fax) (65) 6755 0042

Email: tm_ap@agilent.com

Product specifications and descriptions in this document subject to change without notice.

© Agilent Technologies, Inc. 2004

Printed in USA, October 27, 2004

5989-1788EN



Agilent Technologies