



Application Overview

Research into higher density recording with magnetic media focuses on spindrive and disk head testers. High speed digitizer cards can now be used to sample frequency-encoded servo patterns, determine the position error signal (PES) and improve the position accuracy of the spin stand.

Applications includes: Servo pattern capture and analysis, real-time signal processing and feedback control.



Digitizer Improves Servo Control in Hard Disk Systems

Fast Data Acquisition and Digital Signal Processing in Data Storage Applications

Solution Description

- U1071A, 8-bit, 1-2 GS/s sampling, PCI digitizer.
- U1080A, 8-bit, 2 GS/s, cPCI digitizer with on-board FPGA processing.

Key Features and Added Value

- U1071A features simultaneous multibuffer acquisition and readout (SAR) mode for ultra fast data capture and transfer. Transfer rates exceed 200 Mbytes/s.
- U1080A offers real-time acquisition and processing capability including the ability to generate a feedback signal.
- Fast PC based data acquisition and processing using programs such as C++, VisualBasic, LabVIEW, LabWindows and MATLAB.
- Real time signal processing can be implemented in the U1080A. Custom algorithms can be loaded into the on-board FPGA based signal processing engine with the use of our Firmware Development Kit (FDK).

Key Requirements

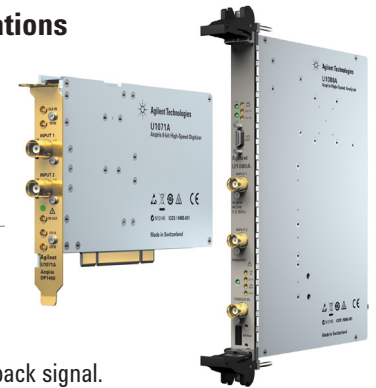
- Customers need to be aware that digitizer technology gives them the possibility to collect and analyze signals faster than with conventional test systems.
- PC based data acquisition provides flexibility to develop customized systems where application specific software and firmware can be easily implemented.

Resources

- U1071A, 8-bit PCI digitizer brochure: <http://cp.literature.agilent.com/litweb/pdf/5989-7100EN.pdf>
- U1080A cPCI digitizer with on-board processing brochure: <http://cp.literature.agilent.com/litweb/pdf/5989-7122EN.pdf>
- Article "Storage Hard Disk Drive Servo Positioning": <http://cp.literature.agilent.com/litweb/pdf/5989-7565EN.pdf>
- Data Converter product selection guide: <http://cp.literature.agilent.com/litweb/pdf/5989-8038EN.pdf>
- Digitizers website: www.agilent.com/find/embedded-digitizers

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