



Calibration Case Study

Bill Hedrick - Instrument Rental
Labs

Calibration of NI Products

We Rent and Sell the Equipment and
Accessories for the Calibration of NI
Products

Problem

- Calibrations are not generally done on the automated systems, rendering automation measurements less certain.

Why Calibrate NI Modules?



- Measurement modules (PXI, PCI and Stand-Alone) must be verified and re-adjusted just like bench top equipment from Agilent and Tektronix to meet ISO, FDA and military requirements.

ISO 9001:2000 / Mil Std / FDA

➤ Your quality system
and customer
satisfaction could be
at risk!

Third-Party (Outside) Calibration

- If your Company uses a third party (outside), calibration service. Only a few, have the ability to calibrate NI modules. Requires the NI customer to tear down the measurement system, ship to NI, wait for the return and re-install and re-verify the test system.

Internal Calibration Lab

- Even many of the largest internal calibration Labs don't have calibration support for NI modules.
- As a Result, the NI customer must tear down the measurement system, ship to NI, wait for the return and re-install and re-verify the test system.

Reasons Modular Instruments aren't Calibrated

- Technician familiarity with NI
- Availability of services familiar with NI
- Tendency to trust printed columnar output
- Knowledge of uncertainty
- Knowledge of system accuracy

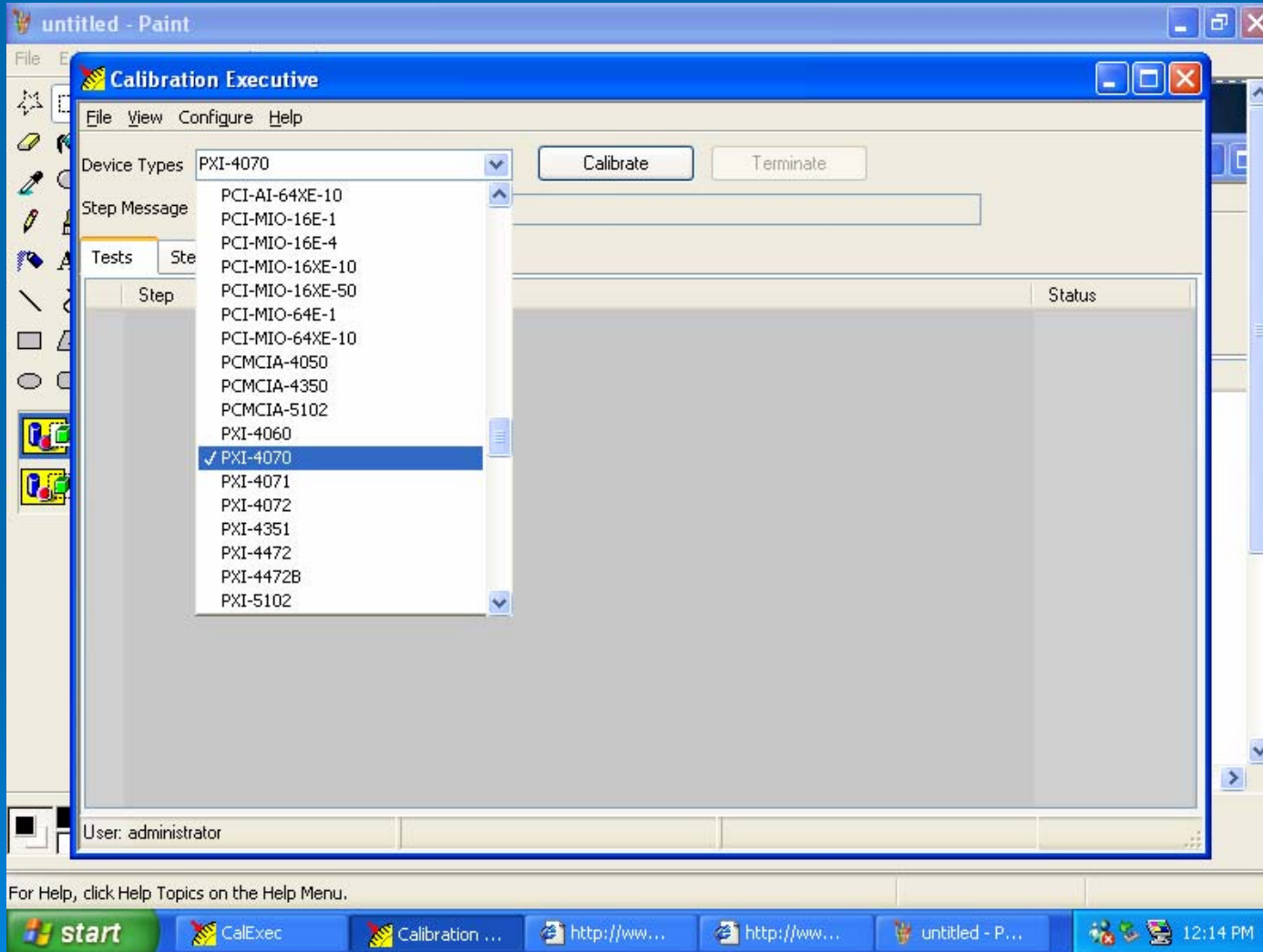
How to Cal NI Modules

- Calibration technicians need software, fixtures and familiarity with automated computer based measurements, which are all now readily available and easy to use (without learning a programming language), thanks to new calibration software from National Instruments.

Setup



Case Study - Software Screenshots of Calibration



NI Cal Software Frame Example

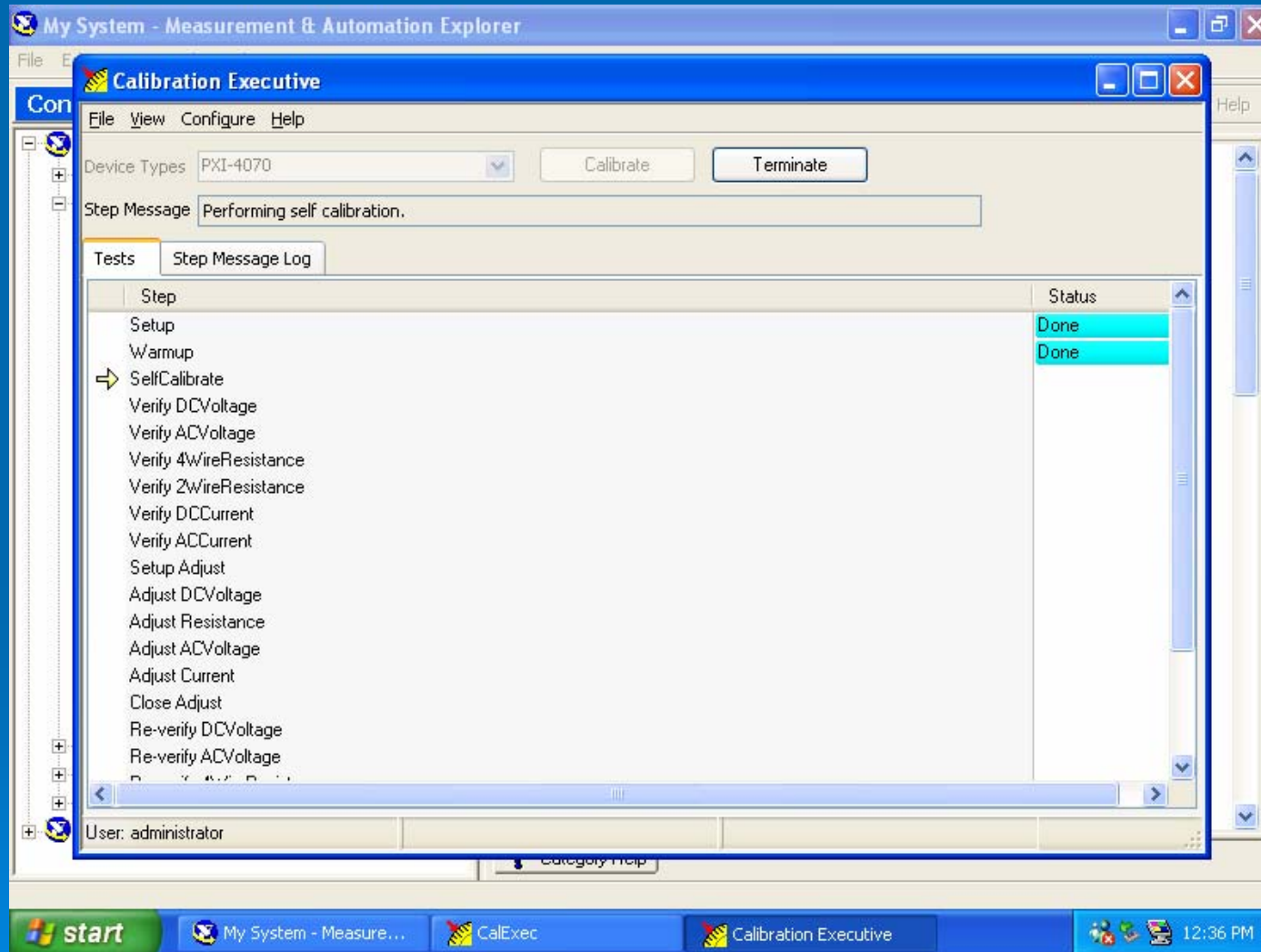
1 NI 4070/4072 2 Fluke 5700A/5720A Calibrator 3 Fluke 5440 Cable

Connect as shown. There will be a two minute wait to allow any thermal EMF to stabilize.

Continue Terminate

start CalExec Calibration Executive Download Center - D... 12:59 PM

Progress of Automated Cal



Certificate Provided in Software

Calibration Report - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Refresh Print Mail

Address C:\Program Files\National Instruments\Calibration Executive\ReportGenerator\OutputFiles\InstrumentRentalLabs_DB5034_12-40 Go Links

Calibration Performance Test Data

DUT Information

Type: PXI-4070
Tracking Number: HTE0244
Serial Number: DB5034
Notes:

Customer Information

Name: Instrument Rental Labs
Address: 2100 W. 6th Ave. Broomfield, Colorado 80020
Purchase Order:
Notes:

Environmental Conditions

Temperature: 75.0 F
Humidity: 25.0 %

Operator Information

Operator Name: administrator
Calibration Date: Wednesday, October 12, 2005 11:19:21
Notes:

Standards used for Calibration

Type	Tracking Number	Calibration Due Date	Notes
Fluke 5720A Multifunction Calibrator	HTE0244	10/8/2005	

Calibration Results

Done My Computer

start My System... cal reports ... CalExec Calibration ... Calibration ... 12:41 PM

Equipment & Accessories Needed to Cal NI Modules “E Series”

- Adapters for interfacing to modules with Cables & Fixtures ~
\$70.00/Week
\$120.00 Mo.
- NI “Calibration Executive” Software, installed on a PXI8186 computer
\$320.00 Wk \$570.00 Mo.



Typical Calibrator ~\$45,000.00

Calibrator Rentals

\$789.00/Wk or \$1579.00 Mo.



Calibration Grade DMM

Agilent 3458A Calibrator Grade

DMM 8.5 Digit

\$240.00/Week or \$480.00 Mo.



Other Rentals Available

- NI Modules
- Agilent
- Tektronix
- Fluke
- All Equipment Categories... (1546 items)
- Analyzers (216 items)
- Antennas (37 items)
- Generators (67 items)
- Meters (161 items)
- Misc. RF / Microwave Components (101 items)
- Oscilloscopes (110 items)
- Physical / Dimensional (120 items)
- Power Supplies / Electronic Loads (249 items)
- Recorders (83 items)
- Standards / Calibrators (77 items)
- Vibration (28 items)

Visit Booth

- Please see me at our booth for information or to arrange a personal visit appointment
- Thank You!

