

Welcome to Issue #74

Ciao! We are coming down the home stretch to the end of the year. Here at The Modal Shop, we continue to grow in meeting our customers' needs with innovative products and services. Hopefully, it has been a good year for you and your organization. If our travels this year are any indication, our sense is that the global economy continues to improve and companies around the world continue to ramp up capacity. Remember, if you need "extra capacity" in dynamic sensing and calibration, we are here to help you.

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Tip of the Month: Low-Frequency ICP Sensors Have Longer DTC

Low-frequency ($\ll 0.5$ Hz) ICP sensors have a long Discharge Time Constant (DTC), requiring as long as several minutes for the sensor's bias voltage to stabilize before beginning calibration. Measurement errors will result if sufficient time is not allowed for the electronics to settle properly before starting the calibration.

Technical Exchanges

[Dynamic Sensors & Calibration Seminar](#)
December 12
Chicago, IL

[IMAC XXXII](#)
February 3-6
Orlando, FL

DIMM (Dynamic Inertia Measurement Method) Is a Bright Idea
By NASA Dynamic Inertia Measurement Method Team



The Modal Shop has developed multi-degree-of-freedom force sensor calibration capabilities for an inertial properties estimation application pioneered by the University of Cincinnati Structural Dynamics Laboratory and NASA Dryden Flight Loads Laboratory. This

application can potentially reduce the huge facility costs and test times associated with the weight and balance methods of determining inertial properties (mass, moments of inertia and center of gravity) of large structures. The team and application were highlighted recently in a NASA newsletter...

[Click to read full article](http://modalshop.com/calibration.asp?ID=899)
modalshop.com/calibration.asp?ID=899

HP Testing History & Technical Archive
By Marco Peres
STP/PVC Product Group Manager, The Modal Shop

Today most people recognize HP for its printers and notebooks, but for more than half a century, the company founded by Dave Packard and Bill Hewlett in a garage in Palo Alto, CA, helped write the history of testing technology. In particular, HP has also played a big role in the sound and vibration industry from the 60s all the way into the late 90s.



Quick Links

[PTB](#)

[NIST](#)

[ISO TC 108](#) - Mechanical vibration, shock and condition monitoring

[ISO TC 108/SC 3](#) - Use and calibration of vibration and shock measuring instruments

[ISO TC 108/SC 6](#) - Vibration and shock generating systems

[SAVE \(Formerly SAVIAC\)](#)

[Vibration Institute](#)

[Equipment Reliability Institute \(ERI\)](#)

[TMS Video Vault](#)

[Learn More Calibration](#)

Previous Newsletters

[Dynamic Sensors & Calibration #73](#)

Load Cells: Overview & Design;
World's Longest-Running Vibration Monitoring System

[Dynamic Sensors & Calibration #72](#)

Calibrate Our Own Accelerometers?; Monitoring Structural Dynamics with a Microphone

Select Newsletter Articles by Topic

[Function and Structure of Accelerometers](#)

[Similarities Between Charge and ICP Operation](#)

[Selecting Accelerometers for Mechanical Shock](#)

[Master List of Topics \(T.O.C.\)](#)

PCB Group Companies

[The Modal Shop Systems & Service Website](#)

[PCB Piezotronics Sensor Website](#)

[IMI Monitoring Website](#)

[Larson Davis Acoustics Website](#)

[PCB Load & Torque Website](#)

[SimuTech FEA Website](#)

The HP Memory Project website (www.hpmemory.org) has a handful of incredible historical and technical materials. Check out the Application Note Library where you can download the following gems:

AN100, 1968, Acoustic Handbook:

http://www.hpmemory.org/an/pdf/an_100.pdf

AN243, 1994, The Fundamentals of Signal Analysis

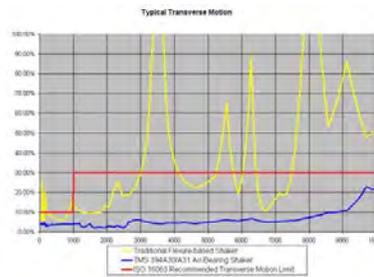
http://www.hpmemory.org/an/pdf/an_243.pdf

AN243-3, 1992, The Fundamentals of Modal Testing

http://www.hpmemory.org/an/pdf/an_243-3.pdf

P.S. Visit www.modalshop.com/education for access to other papers, presentations, tutorials and videos.

Blast From the Past: ISO 16063-21 - Calibration via Reference Standard



This standard describes the most common embodiment of laboratory accelerometer calibration. Utilizing either a back-to-back (piggyback) reference standard or a specially constructed reference

standard accelerometer imbedded inside a precision calibration exciter, this method provides the speed and simplicity of direct Sensor Under Test (SUT) mounting and calibration. Modern computer-controlled calibration systems can provide calibrations and prints of calibration certificates in just a few minutes...

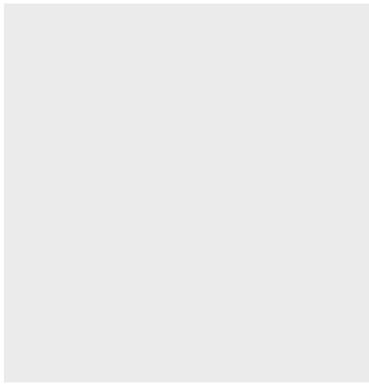
[Click to read full article](#)

modalshop.com/calibration.asp?ID=195

Thanks for joining us for another issue of "Dynamic Sensors & Calibration Tips." As always, please, speak up and [let us know what you like](#). We appreciate all feedback: positive, critical or otherwise. Take care!

Sincerely,

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