

sensor & calibration tips



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Greetings,

Welcome to Issue #56

Welcome to the April issue of our Dynamic Sensing and Calibration newsletter. With the unseasonably warm weather here in North America, we have been delighted with our spring time... and can't help but be in a positive mood. This positive mood keeps us going with new innovations and our signature customer service in pursuit of our goal of Total Customer Satisfaction. As always, thanks for your emails and notes of feedback and support. One news item this month is that The Modal Shop and PCB Group are proud to be the participating organizer of the June meeting of the TC108, which is responsible for maintaining ISO 16063 standard. This meeting will gather in Buffalo, New York and host many of the world's preeminent dynamic sensing metrologists from National Metrology labs around the globe for continued work on global standards, and will also involve a tour of PCB Piezotronics' newly expanded Global HQ and Dynamic Technology Center.

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Tip of the Month

The 393 Series Accelerometers are seismic class accelerometers built for low frequency operation and may take a very long time to bias. Try connecting the sensor and waiting 3-5 minutes. Looking at the frequency responses, the 393A03 goes down to 0.5 Hz and the 393B12 goes down to 0.15 Hz. Low frequency range and bias time are inversely related and the 393B12 would take significantly longer than the 393A03 to power up. If after 5 minutes the sensor still isn't biased, you probably have a bad sensor.

Low Outgassing Accelerometers and Cables

Continuing to scour the depths of the PCB Group, we're keeping an eye out for you on the latest in sensor developments. For the aerospace test and evaluation market, the outgas properties of an accelerometer are extremely important when testing in a vacuum chamber.



The following is a preview of topics authored by Bob Metz which will be presented at the 27th Aerospace Testing Seminar in October of this year.

[Click here to read more](#)

<http://www.modalshop.com/calibration.asp?ID=709>

Back to Calibration Basics - The Exciter

We routinely get questions on accelerometer calibration and what effects uncertainly, so let's go back to the basics of accelerometer calibration. One important thing to consider is the exciter and the transverse sensitivity of accelerometers. The exciter acts as the heart of the calibration system, providing an accurate mechanical motion to the transducer.



This excellent presentation was given by our Calibration Product Group Manager, Mr. Eric Seller, educating users

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

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

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Previous Newsletters

[sensor & cal tips #55](#) -

Q & A on General Trends in Vibration; First Time Quality

[sensor & cal tips #54](#) -

Do's and Don'ts of Excitation Techniques; Interview with Professor David Brown

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 \(T.O.C.\)](#)

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on the effect transverse motion has on calibration.

Click here for the brief presentation, [Back to Basics - The Exciter](#).

[Click here to see the presentation](#)

<http://www.modalshop.com/calibration.asp?ID=705>

Blast from the Past - Calibration Traceability

For those who may be new to our newsletter, we wanted to highlight an article from a previous sensor & cal tips - "[Calibration Traceability](#)"...

In both life and business, we are often looking to sort out our relationships by an estimate of integrity. We want vendors who price fairly and deliver on their promises... We want friends who are of good character and who will stick by us both in up times and in down times... and we continually assess our view of integrity through our interactions each day. In



the calibration world, integrity hinges on a proven, repeatable process (through following procedures with diligence and documented uncertainty calculations), and by measurement traceability, which is each measurement component's chain or link to a national standard or physical constant.

[Click here to read more](#)

<http://www.modalshop.com/calibration.asp?ID=205>

Thanks for joining us again. We value your time and strive to continue to provide concise, high value content to your inbox each month. If you have ideas of what would help you or you colleagues perform better dynamic measurements, please [let us know](#) and we will be glad to help. We are here to serve you...

Sincerely,

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