

# sensor & calibration tips



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Your one-stop sound & vibration shop

Greetings,

**Welcome to Issue #47**

The team at The Modal Shop has been sending out this monthly training and tips newsletter for dynamic sensors for some time now! If you are new to our newsletter, please enjoy this short communication, share it with a colleague and have a look at the archive links below where you'll find all the back issues with their wealth of information.

We're glad to have you on board!

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## Tip of the Month

Dynamic measurements are seldom routine. You can spend a lifetime in test work and most will still need help with sensor selection, calibration coaching and application use. The sensor specification sheet is the starting point for frequency response, sensitivity and dynamic range.

## Quick Links

[NCSL](#)

[IMEKO](#)

[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

[SAVIAC](#)

[Vibration Institute](#)

[TMS Video Vault](#)

[Learn More Calibration](#)

## Previous Newsletter

[sensor & cal tips #46](#) -

## Characterizing Accelerometer Mounting...



We often get asked the question, "How do I mount a triaxial accelerometer to calibrate the (in plane) X and Y axes, when there is only a single Z axis mounting hole?" Clearly the Z axis stud mount poses no problems, but questions follow such as, "Can I adhesively mount it on the cap

or case?" or "Why can't I get my accelerometer to pass in the off axes direction?" Our answer is always the engineering favorite, "Well... it depends." Lets take a look at the problems in a little more detail...

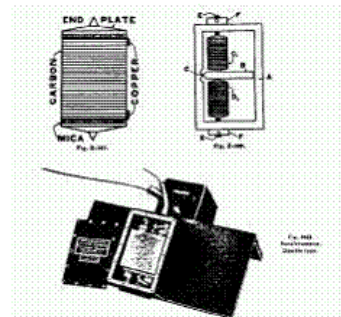
[Click here to read more](#)

<http://www.modalshop.com/calibration.asp?ID=620>

## Blast from the Past

For those who may be new to our newsletter, we wanted to highlight an article from a previous sensor & calibration tips - "[Accelerometer Technologies and Performance Characteristics](#)"...

Recognize the early accelerometer design in the picture? Commercialized in the 1920's originally through Southwark (now BLH Electronics), it consisted of an E-shaped frame containing 20 to 55 carbon rings in a tension-compression Wheatstone half-bridge between the top and center section of the frame. By 1936, Southwark's version with "adjustable cork damping" was available. Reported applications were: "recording



Handling Out-of-Calibration Equipment; How long should an accelerometer cable last?

[sensor & cal tips #45](#) - High Frequency Accelerometer Measurements

### 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 website](#)

[PCB Piezotronics website](#)

[IMI website](#)

[Larson Davis website](#)

[PCB Load & Torque website](#)

[SimuTech website](#)

acceleration of an airplane catapult, passenger elevators, aircraft shock absorbers and to record vibrations of steam turbines, underground pipes and forces of explosions..."

Follow the link to review PCB Piezotronics Vice President of Engineering, David Lally's presentation from Sensors Expo in Chicago...

[Click here to read more](#)

<http://www.modalshop.com/calibration.asp?ID=333>

### More Information and Education

Summer time is the time we remind you that you can get volumes of free reference and training information from The Modal Shop. We are building our technical library every month, so if you have time, check out our "Video Vault", [Modal Shop YouTube Channel](#) or [Newsletter Topic Archives](#), and please, take a quick peek at what you've been missing!

[Modal Shop Website "Video Vault"](#)

[Modal Shop YouTube Channel](#)

[sensors & calibration Application Topics Compiled](#)

### Training Courses with Dr. Walter

Dr. Pat Walter has previously taught sold-out courses on dynamic shock, vibration, pressure and force measurement theory and practice at PCB in Buffalo, NY. Click below for details and more information on upcoming courses.

[Click here for upcoming courses](#)

[http://pcb.com/docs/Pat\\_Walter\\_August\\_2011\\_registration.pdf](http://pcb.com/docs/Pat_Walter_August_2011_registration.pdf)

We appreciate your interest and are glad to be providing regular information to help you with your dynamic testing and calibration needs. If you have any questions you would like answered or have a topic you would like to see covered, please contact us and we'll be glad to help out. Your question may even be featured in a future newsletter...

Sincerely,



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