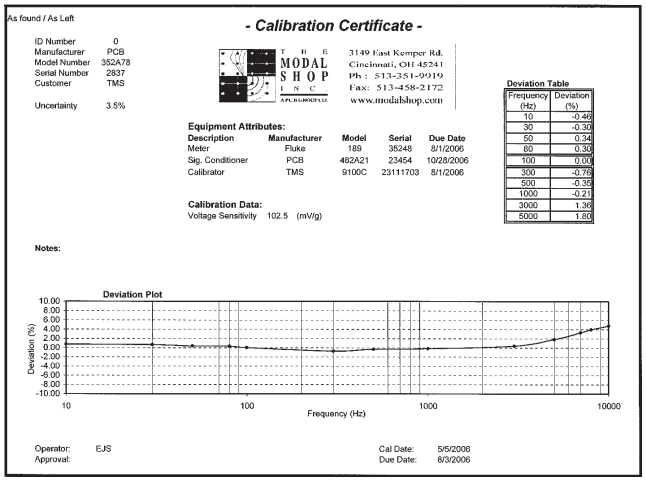
Portable Vibration Calibration System

The 9100C Portable Vibration Calibration System is the perfect tool to field calibrate accelerometers over a wide frequency and amplitude range. Conveniently use the system to validate the performance of accelerometers, velocity sensors and displacement sensors in the field without having to send them offsite to be calibrated. The K9100C kit adds a Fluke® digital multimeter with data logging and Visual Basic macro for Microsoft Excel for producing NIST traceable vibration sensor calibration reports that comply with ISO 17025 / A2LA requirements. The 9100C operates over a bandwidth from 10 Hz to 10 kHz, and supports transducers weighing up to 750 grams.

In contrast to more elaborate laboratory style systems, the Model 9100C is portable, making it ideal for testing in the field or at a customer's site. The self-contained 9100C calibrator unit is equipped with it's own rechargeable power source, which makes the system an excellent choice for any fieldwork where power is not available. An external charger/power supply provides charging and operational current when used in the lab.

Benefits:

- Easily perform NIST traceable calibrations over a wide frequency and amplitude range
- Quickly create calibration certificates by entering calibration data in Visual Basic® macro for Microsoft Excel® (example shown at the right)
- Reliable hardware from trusted names like Fluke and The Modal Shop
- Flexible calibration of acceleration, velocity or displacement sensors in either English or metric units



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- Calibration Certificate -

ID Number 0
Manufacturer PCB
Model Number 352A78
Serial Number 2837
Customer TMS

Uncertainty 3.5%

THE MODAL SHOP INC
3149 East Kemper Rd.
Cincinnati, OH 45241
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Deviation Table

Frequency (Hz)	Deviation (%)
10	-0.46
30	-0.50
50	0.34
80	0.30
100	0.00
300	-0.76
500	-0.35
1000	-0.21
3000	1.36
5000	1.80

Equipment Attributes:

Description	Manufacturer	Model	Serial	Due Date
Meter	Fluke	189	35248	8/1/2006
Sig. Conditioner	PCB	482A21	23454	10/28/2006
Calibrator	TMS	9100C	23111703	8/1/2006

Calibration Data:
Voltage Sensitivity 102.5 (mV/g)

Notes:

Deviation Plot

Operator: EJS
Approval:

Cal Date: 5/5/2006
Due Date: 8/3/2006

800-860-4867
info@modalshop.com

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"Simplifying with Smart Sensing Solutions"

The Portable Vibration Calibration System allows the user maximum flexibility when adjusting frequency ranges (10 Hz - 10 kHz) and amplitude settings (Acceleration, Velocity, Displacement). The LCD readout of the shaker amplitude and frequency can either be displayed in English or Metric units. To ensure the accuracy and reliability of the test readings, an integrated NIST traceable reference accelerometer is included. Due to its unique suspension, the Model 9100C can support sensors that weigh up to 750 grams without the aid of an external support mechanism.

Model K9100C includes model 9100C and adds a Fluke DMM and MS Excel Visual Basic macro for automated report generation. The only items required for calibration are user supplied signal conditioning and sensors.

SPECIFICATIONS:

GENERAL:	
Frequency Range (operating)	10 Hz - 10 kHz
Maximum Amplitude at 100 Hz[1]	10g (98 m/s²) 6.2 in/s (0.16 m/s) 19 mil (0.48 mm)
ACCURACY:	
Acceleration (35 Hz to 2 kHz)[2]	±3%
Acceleration (2 kHz to 10 kHz)	±1 dB
Velocity (35 Hz to 400 Hz)	±3%
Displacement (35 Hz to 150 Hz)	±3%
Amplitude Linearity	±1% (100 gram load)
Waveform Distortion	5% max (100 gram load at 35 Hz - 2 kHz)
POWER REQUIREMENTS - 9100C CALIBRATOR	
Internal Batteries	12 VDC, 4 Amp Hours
AC Power	110 VAC at 60 Hz or 220 at 50 Hz (specify with order)
POWER REQUIREMENTS - FLUKE MULTIMETER (K9100C)	
AC Power	100/120/220/240 VAC at 45/66 Hz or 360/440 Hz
TEMPERATURE	
Operating	32° - 122° F (0° - 50° C)
MECHANICAL - 9100C CALIBRATOR	
Dimenstions (H x W x D)	12” x 7” x 12” (30.5 cm x 18 cm x 30.5 cm)
Weight	20 pounds (9.1 kg)
MECHANICAL - FLUKE MULTIMETER (K9100C)	
Dimensions (H x W x D)	8” x 4” x 2” (203 mm x 100 mm x 50 mm)
Weight	1.2 pounds (545 grams)
INCLUDED ACCESSORIES (WITH K9100C)	
Software	MS Excel template for ISO 17025 compliant report generation[3]
Digital Mulitmeter	Fluke DMM
Mounting Accessory Kit	TMS 9101C 1/4-28 Mounting Accessory Kit
CERTIFICATION	
NIST	Traceable to NIST at 100 Hz, 5 g’s
ACCESSORY PRODUCTS FOR 9100C	
Model 9101C	Mounting Accessory Kit, for cal standards with 1/4-28 mounting threads
Model 9105C	Transfer standard system for on-site calibration of 9100C
S4A-1	Proximity probe adapter kit, includes micrometer and S4A-2 steel target
S4A-3	Universal transducer adapter, custom mounting holes to be drilled and tapped
S4A-4	Screw adapter kit, includes 6-32, 10-32, and 1/4-28, all to 1/4-28.
S4A-5	Rugged transportation case

[1] Max Amplitude is for sensors less than 100 grams mass.
[2] Frequencies below 35 Hz are for reference only and carry no accuracy statement.
[3] Some calibration certificate fields, such as uncertainty, must be determined by the calibration lab.

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