

MODEL 9350C

MICROPHONE CALIBRATION WORKSTATION

- Complies with IEC 61094-6 and IEC 60942
- Streamlined, easy and intuitive operation throughout
- Comma Separated Variable (CSV) export of calibration data for integration into an existing database
- Easy and fast retrieval of calibration certificates from a model/serial or asset number filtered list
- Automatic free-field and random incidence correction curves applied for those types of microphones
- Built-in system verification procedures
- Pass/fail classification of the Microphone Under Test is available by use of frequency dependent limit lines
- Automatic test parameter setup for PCB Piezotronics, Larson Davis, G.R.A.S., Brüel & Kjær, and other microphone manufacturers
- Prints customizable ISO 17025 compliant calibration certificates

PRECISION LABORATORY ACCURACY

The Microphone Calibration Workstation Model 9350C is an automated, accurate, turnkey, PC-based system offering cost-effective calibration of ¼ in, ½ in, and 1 in condenser microphone cartridges (open-circuit sensitivity), condenser microphone cartridges with preamplifiers (closed-circuit sensitivity), as well as microphone Frequency Response Function. In addition, the system provides for conformance testing of microphone preamplifiers and acoustic calibrators: this includes pistonphones as well as speakerphone-based calibrators.

Under complete software control, the 9350C operates in these four modes:

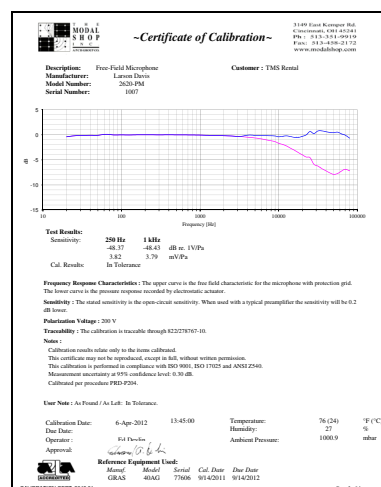
- Condenser Microphone Calibration
- Condenser Microphone & Preamplifier Calibration
- Preamplifier Conformance Test
- Sound Source Calibration (pistonphone, speakerphone, etc.)

The Model 9350C provides consistent and reliable calibrations and conformance tests with the highest possible accuracy. System verification procedures assure a stable, consistent operating environment and reduce systematic and random errors to a minimum. With easy, user-friendly operation and proven stepped sine excitation method, the 9350C provides fast, consistent, reliable performance and excels in efficient, high-volume transducer calibrations. The system also allows for easy integration of customized calibration certificates.

| SPECIFICATIONS | |
|---|---|
| Performance | |
| Microphone Types Calibrated | ¼ in, ½ in, and 1 in externally polarized (120 V and 200 V) and pre-polarized condenser microphones |
| Microphone Calibration | Open-circuit sensitivity, pressure response, free-field response, and random incidence response |
| Microphone Calibration with Preamplifier | Closed-circuit sensitivity, pressure response, free-field response, and random incidence response |
| Pistonphone Calibration | Output sound pressure level, frequency and distortion |
| Preamplifier Types Calibrated | ¼ in and ½ in traditional (28 V and 120 V) and ICP |
| Preamplifier Conformance Check | Frequency response and gain |
| Calibration Method | Single level/single frequency insert voltage technique (Per IEC 61094-5) and Electrostatic Actuator Response (Freq. Response) (Per IEC 61094-6) |
| Frequency Range | 20 Hz to 95 kHz [1] |
| Measurement Uncertainty (at Microphone Reference Frequency) | ± 0.3 dB |
| Correction Curves - Supplied | PCB Piezotronics, Larson Davis, G.R.A.S. and Brüel & Kjær microphones Manual data entry capable into text file |
| Correction Curves - Other | Yes |
| Calibration Data Management | Yes |
| Automatic Pass/Fail Classification | Yes |
| Accuracy Verification Test | Yes |
| Reference Microphone | |
| Type | ½ in Precision Condenser |
| Sensitivity | 12.5 mV/Pa |
| Frequency Range | 3.15 - 20,000 Hz |
| Dynamic Range | 19 - 162 dB (re. 2 x 10 ⁻⁵ Pa) |
| Polarization Voltage | 200 Volts |
| Transfer Sound Source | |
| Sound Pressure Level | 114 dB (re. 2 x 10 ⁻⁵ Pa) |
| Frequency | 251.2 Hz ± 2 Hz |
| Distortion | < 2 % |

| SPECIFICATIONS (continued) | | |
|-------------------------------|------------------------|-----------------------|
| Physical | | |
| System Warm-Up Time | 30 minutes | |
| Main Voltage Supply | 115 V - optional 220 V | |
| Electronic Controller Chassis | | |
| Type | 4U 19" Rack Mount Case | |
| Dimensions (H X W X D) | 19 x 7 x 17.1 in | 48.3 x 17.8 x 43.4 cm |
| Sound Isolation Chamber | | |
| Dimensions (H X W X D) | 21 x 17 x 20 in | 53.3 x 43.2 x 50.8 cm |
| Weight | 28 lb | 12.8 kg |

[1] Highest test frequency determined by frequency bounds of Microphone Under Test, with a maximum of 95 kHz



Calibration Certificate

A calibration certificate may be generated and results saved in the software database.