



## 9919C SERIES

# ACOUSTIC MICROPHONE AND PRECISION CALIBRATION SYSTEMS

- Calibrate acoustic microphones from 20 Hz to 20 kHz
- Standardized technique per IEC 61094-5
- Calibrates both condenser and array microphones
- Supports ½" and ¼" microphone form factors
- Calibrate with or without removing grid cap



## MICROPHONE CALIBRATION TO 20 kHz

The Acoustic Microphone Calibration System 9919C Series offers fast, accurate, and precise calibrations for the most common array measurement microphones. Operating over the entire frequency range of human hearing, the 9919C Series adheres to the IEC 61094-5 calibration standard.

Acoustic Microphone Calibration Systems offer precision placement for the diaphragms of the microphone under test and reference microphone. Both microphones are then exposed to a sinusoidal sound field. By comparing the outputs, the sensitivity of the microphone under test is calculated in a pressure field. This is typically performed at various frequencies to measure the frequency response. Microphones designed for free-field, random incidence (reflective) fields, and A-weighted response are supported by applying real-time field corrections using the Precision Sensor Calibration System 9155D Software.

The 9919C Series is available in three configurations: A turnkey system, an upgrade to an existing Precision Sensor Calibration System Model 9155D, and as a stand-alone test fixture with reference microphones. With sound pressure levels reaching up to 104 dB, operator hearing is protected by the acoustic isolation chamber. 9919C Series supports various measurement microphones with included mounting adaptors for the most common form factors. Additional adaptors for alternate form factors are available.

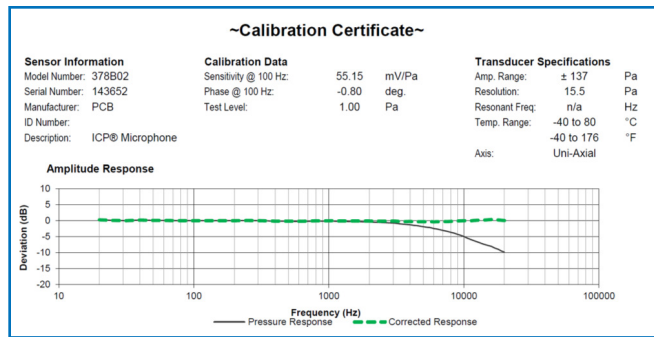
SPECIFICATIONS	
<b>Performance</b>	
Technique	IEC 61094-5 Comparison Method
Recommended Frequency Range	20 – 20 000 Hz
Expected System Uncertainty – 250 Hz	0.25 dB
<b>Microphones Supported</b>	
IEC Condenser Microphones	½” and ¼” <sup>[1]</sup>
Array/Electret Microphones	½” and ¼” diameter; with or without grid cap <sup>[1]</sup>
<b>Physical<sup>[2]</sup></b>	
Size - Height x Diameter	13 x 6 in [334 x 152 cm]
Weight	10 lb [4.5 kg]
AC Power	110 or 220 VAC
Input Power	12 – 21 VDC <sup>[3]</sup>
Analog Input Signal Connection	BNC plug

- [1] Various adaptors are supplied for the most common form factors. Additional custom adaptors are available for others. Contact TMS for the most recent microphone/adaptor compatibilities.  
 [2] 9919C Hardware: Actuator + REFTOP, 9919C Calibrator only (no cabling or mounting adaptors)  
 [3] Supplied with universal power supply, 60 W (19 VDC, 3.15 A output)

KEY 9919C CONFIGURATIONS			
Components & Installation	9919C	K9919C	9155D-919
Comparison Calibration Chamber	✓	✓	✓
½” Reference microphone and fixture	✓	✓	✓
¼” Reference microphone and fixture	✓	✓	✓
Microphone Under Test mounting adaptors	✓	✓	✓
Reference microphone signal conditioner	✓	✓	*
Verification microphone		✓	✓
20 kHz Microphone Calibration Software Option		✓	✓
Windows PC		✓	*
Pre-installed 9155D Core Software		✓	*
Data acquisition hardware		✓	*
Microsoft Office Excel®		✓	*
Sensor cables		✓	*
System Level Acceptance Testing		✓	✓

\* Provided by customer's pre-existing 9155 system. Software and/or hardware updates may be required.

9919C CONFIGURATION DESCRIPTIONS	
9919C	Microphone Comparison Calibrator. Supports ¼” and ½” microphone calibration, compliant to IEC 61094-5, 20 Hz to 20 kHz.
K9919C	Stand-alone, turnkey Acoustic Microphone Calibration System, using 9919C actuator. System includes PC controller, data acquisition card, measurement software with database, PCB reference microphone, cables, and mounting accessories.
9155D-919	Option for Model 9155D. Acoustic Microphone Calibration Option. Measures ¼” and ½” microphones from 20 Hz to 20 kHz. Includes ability to calibrate with or without gridcap, array and condenser microphones.



9155 Software measures pressure response data and adds any acoustic field corrections, maintaining results in database

Manufacturer	Model	Frequency (Hz)	Correction (dB)
PCB	377A02	20.00	0.000
		25.00	0.000
		31.50	0.000
		40.00	0.000
		50.00	0.000
		63.00	0.000
		80.00	0.000
		100.00	0.000
		125.00	0.000
		160.00	0.000
		200.00	0.000
		250.00	0.000
		315.00	0.000
		400.00	0.000
		500.00	0.000
		630.00	0.000
		800.00	0.000
		1000.00	0.000
		1120.00	0.025
		1250.00	0.050
		1400.00	0.075
		1600.00	0.100
		1800.00	0.300
		2000.00	0.500

Model Number Template record with field correction

