

**Calibration Chart for
Condenser Microphone
Cartridge Type 4144**

Serial No. *297090..*

240200/ML: sensitivity 65.5 mV (+3.0 dB)

Open Circuit Sensitivity at 760 mm Hg

26.6 dB re. 1 V per N/m² or *46.8* mV per N/m²

This Calibration is traceable to the National Bureau of Standards, Washington D.C.

Open Circuit Correction Factor:

$$K_0^*) = \dots 2.6 \dots \text{dB}$$

Cartridge Capacitance:

$$C = \dots 56.9 \dots \text{pF}$$

Lower Limiting Frequency (-3 dB) as determined by pressure equalization:

$$\dots 1.8 \dots \text{Hz}$$

Equivalent Air Volume including correction for difference from nominal external mechanical dimensions (see instruction manual):

$$\dots 0.15 \dots \text{cm}^3$$

Leakage Resistance tested at 52% relative humidity > 10¹⁵ Ω.

Frequency Response Characteristic:

The attached curve is the open circuit pressure response recorded with electrostatic actuator.

* Subtract the gain of the preamplifier (see back of this card) from K₀ to get the actual correction factor K. (See instruction manual for the use of K).

$$1 \text{ N/m}^2 = 10 \text{ dynes/cm}^2 = 10 \mu\text{bar.}$$

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Conditions of Tests:

Frequency: 250 Hz

Polarization voltage: 200 V

Barometric Pressure: *759* mm Hg

Relative Humidity: *46* %

Temperature: *23* °C

Date: *1-7-71* Signature: *H.R.*

Summarized Specifications

Type 4144 satisfies the specifications for Laboratory Standard Microphones Type L of the American National Standards Institute S1.12-1967. The requirements of the standard are given in brackets for each item.

Outside Diameter:

0.936 ± 0.0008 in. (0.936 ± 0.0020 in.).

Coupler Mounting Thread (grid thread): 0.910 in. 60 NS2.

Frequency Response Characteristic:

Frequency below which pressure response shall be flat within 2 dB: 7 kHz (7 kHz).

Resonance Frequency: 8.0 kHz.

Equivalent Air Volume at 1 atm., about 0.15 cm³ (0.2 cm³).

Ambient Pressure: Influence on response less than ± 0.5 dB between 0.8 and 1.2 atm. (0.9 and 1.1 atm.).

Temperature Coefficient between -50 and +60 °C, maximum ± 0.008 dB/°C (± 0.03 dB/°C).

Relative Humidity: The influence of humidity does not exceed ± 0.1 dB in the absence of condensation.

Dynamic Range: Sound Pressure Level below which the total harmonic distortion remains less than 1%: 140 dB (130 dB).

Sensitivity: see calibration (> -45 dB re. 1 V per N/m²).

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eter Range: _____ dB Rectifier: _____ Lower Lim. Freq.: _____ Hz Wr. Speed: _____ mm/sec. P.

