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AMERICAN NATIONAL STANDARD

**Measurement Microphones – Part 2:
Primary Method for Pressure Calibration of
Laboratory Standard Microphones by the
Reciprocity Technique**

ANSI S1.15-2005/Part 2

Accredited Standards Committee S1, Acoustics

Standards Secretariat
Acoustical Society of America
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**ANSI S1.15- 2005 /Part 2
(Replaces ANSI S1.10-1966)**

AMERICAN NATIONAL STANDARD

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Primary Method for Pressure Calibration of
Laboratory Standard Microphones by the
Reciprocity Technique**

Secretariat

Acoustical Society of America

Approved by:

**American National Standards Institute, Inc.
9 March 2005**

Abstract

This Standard specifies a primary method for the calibration of microphones by the reciprocity technique. The specifications are intended to ensure that primary calibration with the reciprocity technique can attain the highest accuracy. The technical requirements of this American National Standard is identical to International Standard IEC 61094-2: 1992, "Measurement microphones -- Part 2: Primary method for pressure calibration of laboratory standard microphones by the reciprocity technique". Various improvements have been made to include recent technical information.

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Foreword

[This Foreword is for information only, and is not a part of the American National Standard ANSI S1.15 - 200X/Part 2 American National Standard American National Standard Measurement Microphones – Part 2: Primary Method for Pressure Calibration of laboratory Standard Microphones by the Reciprocity Technique].

This standard comprises a part of a group of definitions, standards, and specifications for use in acoustics. It was developed and approved by Accredited Standards Committee S1 Acoustics, under its approved operating procedures. Those procedures have been accredited by the American National Standards Institute (ANSI). The Scope of Accredited Standards Committee S1 is as follows:

Standards, specifications, methods of measurement and test, and terminology in the field of physical acoustics, including architectural acoustics, electroacoustics, sonics and ultrasonics, and underwater sound, but excluding those aspects which pertain to biological safety, tolerances, and comfort.

The technical requirements in this American National Standard are identical to the international standard IEC 61094-2 1992-03, *Measurement Microphones – Part 2: Primary Method for Pressure Calibration of Laboratory Standard Microphones by the Reciprocity Technique*. Various improvements have been made to include the latest information on pressure and temperature coefficients for microphone sensitivity correction and physical properties of air.

This standard replaces ANSI S1.10-1966 American National Standard Method for the Calibration of Microphones.

Annexes A and B form an integral part of this standard.

Annexes C, D, E, F, and G are for information only.

At the time this Standard was submitted to Accredited Standards Committee S1, Acoustics for approval, the membership was as follows:

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Suggestions for improvements of this standard will be welcomed. They should be sent to Accredited Standards Committee S1, Acoustics, in care of the Standards Secretariat of the Acoustical Society of America, 35 Pinelawn Road, Suite 114E, Melville, New York 11747-3177. Telephone: 631-390-0215; FAX: 631-390-0217; E-mail: asastds@aip.org

This is a preview of "ANSI/ASA S1.15-2005/...". [Click here to purchase the full version from the ANSI store.](#)

American National Standard

Measurement Microphones – Part 2: Primary Method for Pressure Calibration of Laboratory Standard Microphones by the Reciprocity Method

1 Scope

This standard

- is applicable to laboratory standard microphones meeting the requirements of ANSI S1.15-1997/Part 1 (R2001) and other types of condenser microphones having the same mechanical dimensions;
- specifies a primary method of determining the pressure sensitivity to establish a reproducible and accurate basis for the measurement of sound pressure.

2 Normative references

The following referenced documents are indispensable for the application of this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ANSI S1.1-1994 (R 1999) *American National Standard Acoustical Terminology*.

ANSI S1.15-1997/Part 1 (R2001), *American National Standard Measurement microphones – Part 1: Specifications for Laboratory Standard Microphones*.

ANSI/IEEE 260.4-1996 (R2002) *American National Standard Letter Symbols and Abbreviations for Quantities Used in Acoustics*.

IEC 60050-801:1994 *International electrotechnical vocabulary – Chapter 801: Acoustics and electroacoustics*.

Guide to the expression of uncertainty in measurement, 1995, BIPM, IEC, IFCC, ISO, IUPAC, IUPAP, OILM

3 Definitions

For the purposes of this standard, the terms and definitions given in ANSI S1.1:1994, IEC 60050-810:1994, and ANSI/IEEE 260.45-1996 (R2002), and the following apply

NOTE Boldface symbols represents complex quantities.