

**ANSI/ASA S3.20-2015**  
**Reaffirmed by ANSI June 5, 2020**

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# AMERICAN NATIONAL STANDARD

## **Bioacoustical Terminology**

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ANSI/ASA S3.20-2015

Accredited Standards Committee S3, Bioacoustics

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Standards Secretariat  
Acoustical Society of America  
1305 Walt Whitman Road, Suite 300  
Melville, NY 11747

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The Acoustical Society of America (ASA) is an organization of scientists and engineers formed in 1929 to increase and diffuse the knowledge of acoustics and to promote its practical applications.



**ANSI/ASA S3.20-2015**  
(Revision of ANSI S3.20-1995)

AMERICAN NATIONAL STANDARD  
**Bioacoustical Terminology**

**Secretariat:**

**Acoustical Society of America**

**Approved on October 22, 2015 by:**

**American National Standards Institute, Inc.**

**Abstract**

This standard provides definitions for a wide variety of terms used in human bioacoustics, including hearing, speech, psychoacoustics, and physiological acoustics. It is intended to supplement ANSI/ASA S1.1-2013 American National Standard Acoustical Terminology in which more generally used terms in acoustics are defined, including a number of terms from physiological and psychological acoustics and music. Those terms from ANSI/ASA S1.1-2013 that are related to bioacoustics are included in this Standard as annexes.

## AMERICAN NATIONAL STANDARDS ON BIOACOUSTICS

The Acoustical Society of America (ASA) provides the Secretariat for Accredited Standards Committees S1 on Acoustics, S2 on Mechanical Vibration and Shock, S3 on Bioacoustics, S3/SC 1 on Animal Bioacoustics, and S12 on Noise. These committees have wide representation from the technical community (manufacturers, consumers, trade associations, organizations with a general interest, and government representatives). The standards are published by the Acoustical Society of America as American National Standards after approval by their respective Standards Committees and the American National Standards Institute (ANSI).

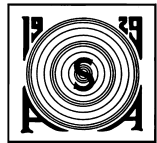
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An American National Standard implies a consensus of those substantially concerned with its scope and provisions. Consensus is established when, in the judgment of the ANSI Board of Standards Review, substantial agreement has been reached by directly and materially affected interests. Substantial agreement means much more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered and that a concerted effort be made towards their resolution.

The use of an American National Standard is completely voluntary. Their existence does not in any respect preclude anyone, whether he or she has approved the Standards or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the Standards.

NOTICE: This American National Standard may be revised or withdrawn at any time. The procedures of the American National Standards Institute require that action be taken periodically to reaffirm, revise, or withdraw this Standard.



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## Foreword

*[This Foreword is for information only, and is not a part of the American National Standard ANSI/ASA S3.20-2015 American National Standard Bioacoustical Terminology. As such, this Foreword may contain material that has not been subjected to public review or a consensus process. In addition, it does not contain requirements necessary for conformance to the standard.]*

This standard comprises a part of a group of definitions, standards, and specifications for use in bioacoustics. It was developed and approved by Accredited Standards Committee S3 Bioacoustics, under its approved operating procedures. Those procedures have been accredited by the American National Standards Institute (ANSI). The Scope of Accredited Standards Committee S3 is as follows:

*Standards, specifications, methods of measurement and test, and terminology in the fields of psychological and physiological acoustics, including aspects of general acoustics which pertain to biological safety, tolerance and comfort.*

This standard is a revision of ANSI S3.20-1995, which has been technically revised. New terms have been added, deprecated terms removed, and a number of terms have had their definitions updated. The normative references have been updated, and updated terms from ANSI/ASA S1.1-2013 appear in the annexes. Additional information has been added in blue font to some of the terms in the annexes for completeness, clarity, and consistency in bioacoustics.

This standard is not comparable to any existing ISO Standard.

At the time this Standard was submitted to Accredited Standards Committee S3, Bioacoustics, for approval, the membership was as follows:

C.J. Struck, *Chair*  
P.B. Nelson, *Vice-Chair*  
  
S.B. Blaeser, *Secretary*

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Working Group S3/WG 73, Bioacoustical Terminology, which assisted Accredited Standards Committee S3, Bioacoustics, in the development of this standard, had the following membership.

C.J. Struck, Chair

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Suggestions for improvements of this standard will be welcomed. They should be sent to Accredited Standards Committee S3, Bioacoustics, in care of the Standards Secretariat of the Acoustical Society of America, 1305 Walt Whitman Road, Suite 300, Melville, New York 11747. Telephone: 631-390-0215; FAX: 631-923-2875; E-mail: [asastds@acousticalsociety.org](mailto:asastds@acousticalsociety.org).



## American National Standard

# Bioacoustical Terminology

## 1 Scope

This American National Standard provides definitions for terms used in human bioacoustics. Some additional general terms for measurement and instruments related to applications in psychoacoustics are also provided.

Acoustical terms of more general use in the performance of acoustical measurements, the properties of electroacoustic transducers, and applications in the fields of architectural acoustics, environmental acoustics, underwater sound, and music are provided in ANSI/ASA S1.1-2013 *American National Standard Acoustical Terminology*. A selected set of terms from clause 3 of ANSI/ASA S1.1-2013 involving acoustical levels is listed here in Annex A, and terms from clause 6 on transducer and linear system properties are included here as Annex B. The entire clause 11 of ANSI/ASA S1.1-2013 containing psychoacoustics and physiological acoustical terminology is included here in Annex C, and the entire clause 12 on musical acoustics is included here in Annex D. All terms defined in the body of the text and in the annexes are listed in an alphabetical index.

## 2 References

Many of the terms in this standard are taken from the following referenced documents. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ANSI/ASA S1.1-2013 *American National Standard Acoustical Terminology*

ANSI/ASA S3.1-1999 (R 2013) *American National Standard Maximum Permissible Ambient Noise Levels for Audiometric Test Rooms*

ANSI/ASA S3.4-2007 (R 2012) *American National Standard Procedure for the Computation of Loudness of Steady Sounds*

ANSI/ASA S3.5-1997 (R 2012) *American National Standard Methods for Calculation of the Speech Intelligibility Index*

ANSI/ASA S3.6-2010 *American National Standard Specification for Audiometers*

ANSI/ASA S3.7-1995 (R 2008) *American National Standard Method for Coupler Calibration of Earphones*

ANSI S3.13-1987 (R 2012) *American National Standard Mechanical Coupler for Measurement of Bone Vibrators*

ANSI/ASA S3.21-2004 (R 2009) *American National Standard Methods for Manual Pure-Tone Threshold Audiometry*

ANSI/ASA S3.22-2009 *American National Standard Specification of Hearing Aid Characteristics*

ANSI/ASA S3.25-2009 (R2014) *American National Standard for an Occluded Ear Simulator*