



AMERICAN NATIONAL STANDARD

Specification for Audiometers

Secretariat:

Acoustical Society of America

Approved on September 20, 2018:

American National Standards Institute, Inc.

Abstract

The audiometers covered in this specification are devices designed for use in determining the hearing threshold level of an individual in comparison with a chosen standard reference threshold level. This standard provides specifications and tolerances for pure tone, speech, and masking signals and describes the minimum test capabilities of different types of audiometers.

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Specification for Audiometers

ANSI/ASA S3.6-2018

Accredited Standards Committee S3, Bioacoustics

Standards Secretariat
Acoustical Society of America
1305 Walt Whitman Road, Suite 300
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ANSI/ASA S3.6-2018
(Revision of ANSI/ASA S3.6-2010)

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Foreword

[This Foreword is for information only and is not a part of ANSI/ASA S3.6-2018 American National Standard Specification for Audiometers. 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/ASA S3.6-2010 and replaces all prior revisions of this standard. This 2018 revision has been technically revised to incorporate changes to keep this standard compatible with other equivalent international (IEC and ISO) standards. This standard contains comparable information to current ISO Standards for pure-tone thresholds, bone conduction and sound field.

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

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Suggestions for improvements to 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.

American National Standard

Specification for Audiometers

1 Scope, purpose, and applications

1.1 Scope

Audiometers are electronic instruments intended for the testing of human hearing. This standard includes specifications and tolerances for audiometers and standard reference threshold levels for audiometric transducers such as supra-aural, circumaural, and insert earphones; bone vibrators; and loudspeakers.

This standard classifies audiometers according to the type of signal generated (pure tones, speech, or both), mode of operation, and complexity or range of auditory functions tested. Audiometers are also classified by type and class. Audiometers used for pure-tone diagnostic assessment are classified as Type 1, 2, or 3, while audiometers having only air-conduction capability are classified as Type 4. Audiometers used for speech assessment are classified as class A or B according to the complexity of the instrument's capability.

1.2 Purpose

The purpose of this standard is to ensure that tests of hearing, and particularly tests of hearing threshold, performed on the same individual with different audiometers complying with this standard shall give equivalent results when used under comparable test conditions. Further, the test results shall accurately and validly represent the level difference, if any, that may exist between the threshold of the individual tested and the reference threshold of hearing. This standard covers the general specifications for audiometers that require behavioral responses from a listener, as well as specific requirements governing the functional units of audiometric equipment such as type or types of signal, signal level control mechanisms, and types of transducers. In addition, instruments which are not audiometers but are used primarily for audiometric testing purposes which incorporate calibrated sound sources (e.g., acoustic immittance systems, otoacoustic emission systems, or narrowband noise generators), shall, whenever possible, conform to clauses 4 through 10 of this standard.

1.3 Applications

This standard specifies requirements for audiometers used primarily to determine hearing threshold levels with respect to standard reference threshold levels.

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/ASA S1.1 American National Standard Acoustical Terminology

ANSI/ASA S1.4-2014/Part 1 / IEC 61672:1-2013 American National Standard Specification for Sound Level Meters