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AMERICAN NATIONAL STANDARD

Specification for Audiometers

Secretariat:
Acoustical Society of America

Approved November 2, 2010 by:
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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Contents

1 Scope, purpose, and applications ................................................................. 1
   1.1 Scope ......................................................................................... 1
   1.2 Purpose .................................................................................. 1
   1.3 Applications ......................................................................... 1

2 Normative references ............................................................................... 1

3 Terms and definitions ............................................................................. 3

4 Requirements for specific types of audiometers ...................................... 8
   4.1 Type designation ....................................................................... 8

5 General requirements .............................................................................. 8
   5.1 Electrical safety requirements .................................................. 8
   5.2 Acoustic safety requirements .................................................... 9
   5.3 Power supply variation and environment conditions ................... 9
   5.4 Unwanted acoustic signals ...................................................... 11
   5.5 Subject response system ........................................................... 13
   5.6 Monitor earphone or loudspeaker ............................................ 13
   5.7 Talk-back system .................................................................... 13

6 Signal sources ........................................................................................ 13
   6.1 Pure-tone source ..................................................................... 13
   6.2 Speech source ......................................................................... 16
   6.3 Masking sounds ...................................................................... 18

7 Signal level controls ............................................................................... 20
   7.1 Marking ................................................................................. 20
   7.2 Accuracy of sound pressure and vibratory force level for pure-tone and speech .. 20
   7.3 Hearing level control ................................................................. 20
   7.4 Masking sound level control ..................................................... 21
   7.5 Tone switching ....................................................................... 22

8 Reference-signal facilities ..................................................................... 23
   8.1 Frequencies ........................................................................... 24
   8.2 Reference-signal level control ................................................ 24

9 Transducers (specifications, RETSPLs and RETFLs) ......................... 24
   9.1 Air conduction, supra-aural earphones .................................... 24
   9.2 Air conduction, circumaural earphones ................................ 26
   9.3 Air conduction, insert earphones ............................................ 27
   9.4 Bone conduction ................................................................. 31
   9.5 Sound field produced via loudspeakers .................................. 32

10 Device marking and instruction manual .............................................. 34
   10.1 Marking ............................................................................... 34
   10.2 Instruction manual .................................................................. 34

Annex A (normative) Correction figures for free-field equivalent output for certain types of commonly used earphones .... 36
Annex B  (normative)  Recordings of speech test material ................................................................. 38

Annex C  (normative)  Calibration of circumaural earphones for extended high frequency testing ...... 39

C.1 General .................................................................................................................................. 39
C.2 Calibration .............................................................................................................................. 39
C.3 Microphone ............................................................................................................................ 39
C.4 Adapters for making extended high frequency measurements on an IEC 60318-1 ear simulator ........................................................................................................................................ 39
C.5 Coupler configurations using a Type 1 adapter .................................................................... 39
C.6 Coupler configuration using a Type 2 adapter ..................................................................... 42
C.7 Environmental conditions .................................................................................................... 42
C.8 References ............................................................................................................................ 42

Annex D  (informative)  Procedures for transfer of reference equivalent threshold values .......... 43

D.1 General .................................................................................................................................. 43
D.2 Probe-tube method ............................................................................................................... 43
D.3 Loudness-balance method ................................................................................................... 44
D.4 Threshold-determination method ....................................................................................... 44
D.5 Standard reference earphone with other-than-specified coupler ...................................... 44
D.6 Standard earphones with other-than-specified cushions .................................................. 45
D.7 Earphone and coupler both different from standard types ................................................ 45

Annex E  (informative)  Audiogram format ....................................................................................... 46

E.1 General .................................................................................................................................. 46
E.2 Reference levels .................................................................................................................... 46
E.3 Vertical scale .......................................................................................................................... 46
E.4 Horizontal scale .................................................................................................................... 46
E.5 Scale proportions .................................................................................................................. 46

Annex F  (informative)  Supra-aural cushions for earphones .................................................... 47

Annex G  (informative)  Requirements for periodic calibration .................................................. 49

G.1 Minimum periodic calibration requirements ...................................................................... 49
G.2 Routine checking and subjective tests ................................................................................. 49
G.3 Equipment needed to perform audiometer calibrations ...................................................... 53
G.4 Calibration of test equipment ............................................................................................. 54

Bibliography .................................................................................................................................. 55

Tables

Table 1 — Minimum required facilities for specific types of audiometers ........................................ 9
Table 2a — Required frequencies and hearing levels for various audiometers ............................ 14
Table 2b — Required frequencies and hearing levels for EHF audiometers .................................. 14
Table 3 — Maximum permissible harmonic distortion, expressed in percent .............................. 15
Table 4 — Narrow-band masking noise: upper and lower cut-off frequencies and correction factors for determining RETSPLs ................................................................. 19
Table 5 — Reference equivalent threshold sound pressure levels (RETSPLs) (dB re 20 µPa) for supra-aural earphones in common use ................................................................. 26

Table 6 — Reference equivalent threshold sound pressure levels (RETSPLs) (dB re 20 µPa) for circumaural earphones ........................................................................................................ 27

Table 7a — Reference equivalent threshold sound pressure levels (RETSPLs) (dB re 20 µPa) for ER-3A and EARTone 3A insert earphones ................................................................. 29

Table 7b — Reference equivalent threshold sound pressure levels (RETSPLs) (dB re 20 µPa) for ER-2 insert earphones for use at Extended High Frequency .................................... 30

Table 8 — Reference equivalent threshold force levels (RETFLs) for bone vibrators .................. 32

Table 9 — Reference equivalent threshold sound pressure levels (RETSPLs) (dB re 20 µPa) for sound-field testing .............................................................................................. 33

Table A.1 — Difference between the free-field equivalent sensitivity level GF and the coupler or acoustic coupler or ear simulator level GC for two types of earphones ....................... 37

Figures

Figure 1 — Rise/fall envelope of test tones ..................................................................................... 23

Figure 2 — Coupling of the insert earphone to the calibration coupler – Figure 2(a) shows an occluded ear simulator (as described in ANSI/ASA S3.25 and IEC 60318-4 (IEC 60711)), see subclause 9.3.1; Figure 2(b) an HA-2 acoustic coupler with rigid tube attachment (as described in ANSI/ASA S3.7), see subclause 9.3.2; and Figure 2(c) an HA-1 acoustic coupler (as described in ANSI/ASA S3.7), see subclause 9.3.3 ............................................... 28

Figure C.1 — Type 1 adapter for use with IEC 60318-1 ear simulator ............................................ 40

Figure C.2 — Position of Type 1 adapter on the IEC 60318-1 ear simulator ..................................... 40

Figure C.3 — Type 2 adapter for use with IEC 60318-1 ear simulator ........................................... 41

Figure C.4 — Position of Type 2 adapter on the IEC 60318-1 ear simulator ................................. 41

Figure F.1 — Earphone supra-aural cushion MX 41/AR ................................................................. 47

Figure F.2 — Earphone supra-aural cushion Type 51 .................................................................... 48
Foreword

[This Foreword is for information only and is not a part of ANSI/ASA S3.6-2010 American National Standard Specification for Audiometers.]

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 S3.6-2004, which 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, 35 Pinelawn Road, Suite 114E, Melville, New York 11747-3177. Telephone: 631-390-0215; Fax: 631-390-0217; E-mail: asastds@aip.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. Audiometers used for diagnostic assessment are classified as Types 1, 2, or 3, while audiometers having air-conduction facilities only are classified as Type 4.

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 narrow-band 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.


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