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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 16296.2-2016

Replacing GB/T 16296-1996

**Acoustics -- Audiometric test methods -- Part 2: Sound-field
audiometry with pure-tone and narrow-band test signals**

声学 测听方法 第2部分：用纯音及窄带测试信号的声场测听

(English Translation)

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Foreword

GB/T 16296 "Acoustic audition method" includes the following parts.

- Part 1. pure tone and bone guidance threshold basic audiometry;
- Part 2. Sound field measurement with pure tone and narrowband test signals;
- Part 3. Language Listening.

This part is part 2 of GB/T 16296.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part of the replacement GB/T 16296-1996 "Acoustics audition method Part 2. pure tone and narrowband test signal with the sound field measurement Listen ", the main technical changes are as follows.

--- delete the normative reference file in the GB/T 3241-1982. Added GB/T 4854.7 (see Chapters 2 and 1996) chapter 2);

- Added an overview clause in Chapters 4, 5, 8 and 11 (see 4.1, 5.1, 8.1, 11.1).

This part uses the translation method equivalent to ISO 8253-2:2009 "Acoustics audition method Part 2. Use pure tone and narrowband test letter no sound of the sound field "(English version).

In this part of the normative reference to the international documents have a consistent correspondence between the following documents.

GB/T 3240-1982 Common frequencies in acoustical measurements (eqvISO 266. 1975);

Electromagnetical sound level gauges - Part 1. Specifications (IEC 61672-1:2002, IDT);

GB/T 4854.7-2008 Baseline zero level of acoustic calibration audiometric equipment - Part 7. Free sound field and diffusion field audiometry of the baseline hearing threshold (ISO 389-7:2005, IDT);

Acoustic standards for loudness curves (ISO 226:2003, IDT);

Electromagnetic audiometry equipment - Part 1. Pure tone audiometer (IEC 60645-1:2001, IDT); GB/T 7341.1-2010;

GB/T 16403-1996 Acoustic audiometry Pure tone air conduction and bone conduction hearing threshold Basic audiometry (eqvISO 8253-1. 1989).

This part is presented by the Chinese Academy of Sciences.

This section is under the jurisdiction of the National Acoustics Standardization Technical Committee (SAC/TC17).

This part of the drafting unit. People's Liberation Army General Hospital Institute of Otorhinolaryngology, Institute of Acoustics, Chinese Academy of Sciences, China Institute of Metrology.

Introduction

The first part of the audiometry method (GB/T 16403-1996) describes the provision of pure tone to the subject by headphones or bone shock to determine the hearing threshold method.

This section describes how to determine the threshold in the sound field. Sound field audiometry usually refers to the ears in the test room to listen by one or more loudspeakers Device to provide the test signal. The test signal can be pure tone, FM or narrowband noise. The acoustic characteristics of the sound field depend on the selection of the test signal the number of speakers used and the acoustic characteristics and the acoustic characteristics of the test room.

Sound field audiometry can be used for a variety of purposes, such as the assessment of hearing sensitivity and the determination of the functional gain of the hearing aid worn by the hearing aid wearer.

Acoustic audiometry

Part 2. Use pure tone and narrow band Test the sound field of the signal

1 Scope

This part of GB/T 16296 specifies the characteristics of the free sound field, the diffusion field, the quasi-free sound field, and the characteristics of the relevant test signal, as well as the use of one or more speakers to provide pure tone, FM tone and other narrowband noise test signal to do sound field audition method.

This part is suitable for measuring the threshold frequency of 125Hz ~ 8000Hz frequency range, but this frequency range can be extended to 20Hz ~ 16000Hz.

This section does not cover the use of hand-held loudspeakers, nor does it include words as test signals.

The purpose of this section is to perform audiometry with sound field audiometry to ensure that the highest possible accuracy and reproducibility are given.

Appendix A gives an example of the results of the audition.

2 Normative reference documents

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this article Pieces. For undated references, the latest edition (including all modifications) applies to this document.

ISO 226 Acoustics Normal Equalization-level-harmonized curve
(Acoustics-Normalequal-loudness-levelcontours) ISO 266 Acoustics-Preferredfrequencies
in Acoustic Acoustics ISO 389-7 Acoustics Calibration Benchmarking of audiometric
equipment - Part 7. Free sound field and baseline hearing threshold for diffuse field
audiometry (Acoustics-Referencezer oforthecalibrationofaudiometricequipment-Part 7.
Referencethreshold ofhearingunderfree-fieldanddiffuse-fieldlisteningconditions) ISO 8253-1
Acoustics - Part 1. Pure tone and bone conduction hearing thresholds Basic audiometry
(Acoustics-Audio-metrictestmethods-Part 1. Basicpure-toneair
andboneconductionthresholdaudiometry) IEC 60645-1 electroacoustics audiometry
equipment - Part 1. Electroacoustics - Audiometricequip -ment-Part 1.
Pure-toneaudiometers) IEC 61672-1 electroacoustics sound level meter - Part 1.
Electroacoustics - Soundlevelmet - Part 1.

Specifications

IEC 60581-7. 1986 High-fidelity audio equipment and systems - Minimum performance requirements - Part 7. High-fidelity audioequipmentandsystems-Minimumperformancerequirements-Part 7. Loudspeakers)

3 Terms and definitions

The following terms and definitions apply to this document.

Air conduction

The process of passing through the outer ear and middle ear to the inner ear.