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

GB/T 7341.1-2010

Replacing GB/T 7341.1-1998

**Electroacoustics -- Audiological equipment -- Part 1: Pure-tone
audiometers**

电声学 测听设备 第1部分：纯音听力计

(English Translation)

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Foreword

GB/T 7341 "electro-acoustics audiometric equipment" is divided into five sections.

--- Part 1. pure tone audiometry (GB/T 7341.1);

--- Part 2. Language audiometric equipment (GB/T 7341.2);

--- Part 3. for audiometric and neuro - otological Auditory test signals of short duration
(GB/T 7341.3);

--- Part 4. extension of the high-frequency hearing test equipment (GB/T 7341.4);

--- Part 5. ear acoustic impedance/admittance measuring instruments (GB/T 15953).

This section GB/T 17341 Part of.

This section identical with IEC 60645-1:2001 "electro-acoustics audiometric equipment - Part 1. pure tone audiometer" (second edition). Headquarters the following sub-national standards referenced in the content and IEC 60645-1:2001 "electro-acoustics audiometric equipment - Part 1. pure tone audiometry Meter "(second edition) content equivalent to.

- a) GB/T 4854.3 acoustic calibration of audiometric equipment - Reference zero - Part 3. pure tones and bone vibrators Reference equivalent threshold force levels (Eqv ISO 389-3);
- b) GB/T 7583 Acoustics pure tone air conduction audiometry hearing protection (eqv ISO 6189);
- c) GB/T 9001 Methods of measurement of audio amplifier (eqv IEC 60268-3);
- d) GB/T 16296 Acoustics - Audiometric test methods - Part 2. Sound field with pure tone and narrow-band test signals audiometry (eqv ISO 8253-2);
- e) GB/T 16402 Acoustics pure tones and insert earphones Reference equivalent threshold sound pressure levels (eqv ISO 389-2);
- f) GB/T 16403-1996 Acoustics pure tone audiometry method air conduction and bone conduction threshold audiometry basic (eqv ISO 8253-1. 1989);
- g) GB/T 17696 Acoustics - Audiometric test methods - Part 3. Language audiometry (eqv ISO 8253-3).

The partial substitution of GB/T 7341.1-1998 "Audiometers - Part 1. pure tone audiometer." Compared with the previous version of this part of the great technological changes are technical reprint. The major changes are.

- a) the original audiometer functional facilities from five kinds of patterns to four kinds of patterns;
- b) adds the following.
 - 1) acoustic safety requirements, pressure requirements and frequency modulation characteristics requirements;
 - 2) an external signal source frequency response requirements;
 - 3) the speaker sound field audiometry requirements and free-field conditions;
 - Requirement 4) the electrical signal output, audiogram format requirements;
 - 5) the use of various types of transducers and corresponding reference ear simulator calibration and use of equivalent threshold sound pressure levels to ensure alignment

About the standard measurement method number;

6) The maximum allowable expanded uncertainty of measurement;

c) cancel the broadband noise as masking noise;

d) the performance indicators and testing methods to separate provisions.

For ease of use, this section made the following editorial changes.

a) with "this Part" instead of the "standard";

b) use a decimal point instead of a decimal comma " , " , " ;

c) Normative references chapter introductory phrase modification according to the provisions GB/T 1.1-2000 of;

d) IEC and ISO international standards in this part of the normative references and references to other sections are in force with the corresponding National standards in place;

e) reference documents "IEC 60711" after the revision to "IEC 60318-4" so with "IEC 60318-4" instead of "IEC 60711";

f) reference files "IEC 60126" amended to "IEC 60318-5" so with "IEC 60318-5" instead of "IEC 60126".

This part is proposed by the Ministry of Industry and Information Technology of the People's Republic of China.

This part of the National Standardization Technical Committee electro-acoustics (SAC/TC23) centralized.

This section is responsible for drafting. Shanghai Institute of Measurement and Testing.

Participated in the drafting of this section. Institute of Otolaryngology, Chinese PLA General Hospital, China Institute of Metrology.

Introduction

With the development of the field to diagnose hearing, protection and rehabilitation for the purpose of the test levels, making use of the audiometer greatly increase plus. This allows to consider the audiometer as a series of specific independent functional units. By the provisions of these functional units will be able to make provisions the performance of various types of hearing devices with these units. GB/T 7341 comprises a series of parts, of which GB/T 7341.1 is the first in this series Part summarizes the pure tone audiometer requirements.

Because Expand GB/T 7341 following several parts, now, this section only defines a pure tone audiometer required range. This section the point is that without a broadband noise as

a masking noise signal. Broadband is now used only for masking noise signal associated with the language section, 7341.2 as described in GB/T .

The performance version will be separated from the test prescribed requirements out, the purpose is to prove its consistency. Only when the test lab Actual expanded uncertainty of measurement results comply with the technical requirements of this section in order to be verified. This section Table 7 shows the maximum permissible expansion Exhibition uncertainty U_{max} values. Based on this basic phase, audiometer manufacturer to meet the tolerance and GB/T 7341.1-1998 prescribed with. Compared with the previous version, suitable for use in the audiometer tolerance increased U_{max} .

Electroacoustic audiometry equipment Part 1. pure tone audiometer

1 Scope

This section provides general requirements audiometer, and the test method employs psychoacoustic by standard reference hearing threshold level of comparison Designed for the specific requirements of measuring hearing threshold level of pure tone audiometer.

The purpose of this section is intended to ensure that.

- a) comply with the requirements of this audiometer is different, according to GB/T 16403 and GB/T 7583 the method described, for nominee Ear for hearing test in the frequency range 125Hz ~ 8kHz, especially audiometry should be able to obtain substantially the same result;
- b) The results represent the baseline hearing test ear hearing a valid comparison between the threshold;
- c) audiometer test signal generated scope, operation or testing of auditory function range of complexity are classified according to their.

2 Normative references

The following documents contain provisions which, through reference to GB/T 7341 to the present, constitute provisions of this section. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 3785.1 electric acoustic sound level meters - Part 1. Specification (GB/T 3785.1-2010, IEC 61672-1:2002, IDT) GB/T 4854.1 acoustic calibration of audiometric equipment - Reference zero - Part 1. the ear headphones pure tone reference equivalent threshold sound pressure levels (GB/T 4854.1-2004, ISO 389-1:1998, IDT) GB/T 4854.3 Reference zero - Part 3 Acoustics calibration of audiometric equipment. pure tones and