

ICS 17.140.50

CCS A 59



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

GB/T 25498.3-2010

Replacing GB/T 7342-1987

**Electroacoustics -- Simulators of human head and ear -- Part 3:
Acoustic coupler for the calibration of supra-aural earphones
used in audiometry**

电声学 人头模拟器和耳模拟器 第3部分：校准压耳式测听耳机用声耦合器

(English Translation)

Issued on: December 1, 2010

Implemented on: May 1, 2011

Issued by: Standardization Administration of China

Table of Contents

Introduction
1 Scope
2 Normative references
3 Terms and definitions
4 Structure
4.1 Overview
4.2 Critical dimension
4.3 Calibrated pressure microphone
4.4 Static pressure balancer
5 Headset coupled with the coupler
6 Calibration
6.1 Calibration test environment condition
6.2 Calibration Method
Reference

Foreword

GB/T 25498 "electro-acoustics simulator head and ear simulator" is divided into seven sections.

- Part 1. Align the ear headphones with the ear simulator;
- Part 2. calibration of audiometric headphones with high-frequency range extending interim acoustic coupler;
- Part 3. Calibration of the ear-type headphones with audiometry acoustic coupler;
- Part 4. measuring insert earphones clogged ear simulator;
- Part 5. Measurement with hearing aids and earphones earbud headphones 2cm3 coupler;
- Part 6. measurement of bone vibrators force coupler;
- Part 7. air conduction hearing aids acoustic measurements Head and Torso Simulator.

This section GB/T 25498 Part 3.

This section identical with IEC 60318-3:1998 "people power acoustic simulator head and ear simulator - Part 3. Calibration ear-type audiometry Headphones with acoustic coupler

"(in English).

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

- a) with a decimal point instead of a comma as the decimal point, " ";
- b) Remove IEC 60318-3:1998 Foreword.

This Part replaces GB/T 7342-1987 "audiometric headset calibration IEC provisional reference coupler." this section of the main changes compared to 7342-1987 GB/T as follows.

- a) of this section according to GB/T 1.1-2000 rules increase the "scope" and "normative references" two chapters;
- b) the name of this part of the original "audiometric headset calibration IEC provisional reference coupler" to "electro-acoustics simulator poll and ear simulator - Part 3. Calibration ear-type headphones with audiometry acoustic coupler ";
- c) coupling the headset to become independent coupler Chapter 5;
- d) Calibration become independent in Chapter 6, and an increase in environmental content alignment tolerance requirements and environmental conditions.

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 part of the main drafting units. China Electronics Technology Group Corporation Institute.

Participated in the drafting of this section. Hangzhou Aihua Instrument Co., Ltd., Industry and Telecommunications Research Institute of the Ministry of Information China Telecommunication Technology Labs, Hubei Provincial Institute of Measurement and Testing, Red Sound Equipment Factory (4380) Jiaxing branch.

1 Scope

This section GB/T 25498 specifies the audiometer calibration, press-ear type headphones audiometry acoustic coupling with a certain acoustic impedance of the load Clutch structure and characteristics of the frequency range of 125Hz ~ 8000Hz, the audiometry headphones specified in GB/T 4854.1 in.

SPL headset generated in the coupler is generally not equal to the sound pressure level within the human ear produced. However, in order to have mutual audiometer index Transsexual calibration and audiometric headphones, the device provisions of this Part apply to simple and rapid method.

2 Normative references

The following documents contain provisions which, through reference GB/T 25498 in this section 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 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 20441.4-2006 Measurement microphones - Part 4. Specifications for working standard microphones (IEC 61094-4:1995, IDT)

3 Terms and Definitions

The following terms and definitions apply to this part of the GB/T 25498 of.

Acoustic coupler Predetermined shape and volume of the cavity, and calibrated for measuring the sound pressure level within the cavity together with a microphone for the headset calibration.

4.1 Overview

Coupler shown in Figure 1, you should use a hard, stable and manufacture of non-magnetic material such as brass. Coupler consists of a cylindrical Chamber composition, it is prescribed by the sound of anti-4.2 volume decisions. Bottom of the cylindrical cavity generally has a high mechanical impedance by the microphone diaphragm constitute. Cavity wall should be hard enough, the bending vibrations do not affect the output of the microphone.

4.2 Critical dimension

4.2.1

critical dimensions of the coupler (see Fig. 1) means to determine the size of the condenser microphone is bounded by those of the cavity size and shape, including a capillary Tube leak, the upper edge (lip along) and 45 ° angle.

4.2.2

The nominal effective sound volume should be as follows.

$V_1 = 5780\text{mm}^3 \pm 80\text{mm}^3$ 4.2.3 diameter d_1 should be as follows.

$d_1 = 23.825\text{mm} \pm 0.015\text{mm}$ 4.2.4 diameter d_2 should be.

$d2 = 18.55\text{mm} \pm 0.10\text{mm}$ L2 and height should be.