

Translated English of Chinese Standard: GB/T14471-2013

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GB

ICS 33.160.10

B 72

NATIONAL STANDARD

OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 14471-2013

Replacing GB/T 14471-1993

General specification for headphones

头戴耳机通用规范

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Issued on: December 31, 2013

Implemented on: July 01, 2014

Issued by: General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China;

Standardization Administration of the People's Republic of China

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Foreword

This standard was drafted according to the rules specified in GB/T 1.1-2009.

This standard replaces GB/T 14471-1993: *General Specification for Headphones*.

Compared with GB/T 14471-1993 *General Specification for Headphones*, the main changes of this standard are as follows:

- In “Chapter 1 Scope”, the *“This standard specifies the technical requirements and other requirements on measurement methods, environment test, test methods, regulations of acceptance, marking, packaging, transport, storage of all kinds of hi-fi headphones and popular headphones used for domestic reproducing systems. This standard is applicable to various kinds of headphones for domestic reproducing systems; however, domestic non-wearing headphone and single earphone could also refer to this standard during application”* is change to the *“This standard specifies the classification, naming and coding of headphones, the requirements on inspection items, technical requirements, test methods and inspection rules of headphone products and other requirements including product information, packaging, transport and storage. This standard is applicable to headphones - microphone set (headphone - telephone transmitter) and headphones used on and inside of human ears. In addition, this standard is also suitable for the composite parts necessarily required for constituting a complete headphone system, such as pre-amplifier, passive network and power supply”*.
- Clauses quoted in GB/T 6832-1986 are changed to those in GB/T 12060.7-2013.
- The title of Chapter 3 is changed from “Interpretation of Terminology” into “Classification, Naming and Coding”.
- Compared with “Article 4.4.1 Mechanical connection” of the original standard, the newly added contents are schematic diagrams and contact instructions of 3.5mm plug for double-sound channel headphone - microphone set; 2.5mm plug for double-sound channel headphone; and 2.5mm plug for double-sound channel headphone - microphone set.
- The technical requirements and test methods corresponding to each index contained in the original standard are respectively divided into “Chapter 5 Technical

Requirements” and “Chapter 6 Test Methods” in this standard, resulting in modification in serial number, specifically as follows:

- The technical requirements and test methods of boundary dimension, appearance and mechanical quality contained in Article 4.3 in the original standard are respectively divided into “Article 5.1 Boundary Dimension, Appearance and Mechanical Quality” and “Article 6.1 Boundary Dimension, Appearance and Mechanical Quality” in this standard;
- The technical requirements and test methods of operation test of pure sound in Article 4.5 contained in the original standard are respectively divided into “Article 5.3 Sound Inspection” and “Article 6.2 Sound Inspection” in this standard;
- The technical requirements and test methods of each index about electronic sound in Article 4.6 contained in the original standard are respectively divided into “Article 5.4 Electronic Sound Parameters” and “Article 6.3 Electronic Sound Parameters” in this standard. And ADD new items such as impedance/ frequency characteristic; rated source impedance; rated source electromotive force; limit value of input voltage; characteristics of A- weighted; simulated programme signal characteristic voltage AND protective voltage index OF free field response compensation and correction;
- In accordance with the contents in Article 6.9 and 6.10 in GB/T 12060.7-2013, it is newly added indexes such as external electric field and / or external magnetic field, and protective device in “Article 6.4 Other Parameters” in this standard;
- The “Article 4.6.5 Characteristic sound pressure level (sensitivity)” in the original standard is change to the “Article 5.4.9 Sound pressure level” in this standard;
- The type inspection, acceptance inspection and routine inspection in “Chapter 5 Inspection Rules” in the original standard is replaced by the identification inspection and the inspection of quality conformity (lot by lot inspection and periodical inspection) in “Chapter 7 Inspection Rules” in this standard.
- The “Chapter 6 Marking, Packaging, Transport and Storage” in the original standard is change to the “Chapter 8 Production Information, Packaging, Transport and Storage” in

this standard; And ADD “At the time of delivery, headphones shall be at least clearly marked with manufacturer trademark, model number and impedance. The requirements on the marking of connection terminal and controller shall refer to GB/T12060.11-2012. The marking of polarity shall be according to the requirements specified in GB/T 12060.2-2011”. And based on the contents related to “Chapter 7 Characteristic Classification” in GB/T 12060.7-2013, the requirements to product instructions are added.

Please pay attention to that some information in this document may involve patents. The issuance organization of this document do not bear any liability to identify the patents.

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

This standard is under the jurisdiction of Technical Committee for Standardization of Audio, Video and Multimedia Systems and Equipment (SAC/ TC 242).

Main drafting organizations of this standard: Nanjing University, Zhongming (Dongguan) Electronic Co., Ltd., Fujikon Industrial Holdings Ltd., and GoerTek Inc.

Main drafters of this standard: Shen Yong, Ju Guoxia, and Jiang Chao.

The previous versions replaced by this standard is:

- GB/T 14471-1993.

General Specification for Headphones

1. Scope

This standard specifies the classification, naming and coding of headphones; the requirements on inspection items, technical requirements, test methods and inspection rules about headphone products; and other requirements including product information, packaging, transport and storage.

This standard is applicable to headphones - microphone set (headphone - telephone transmitter) and headphones used on and inside of human ears. In addition, this standard is also applicable to the composite parts necessarily required for constituting a complete headphone system, such as pre-amplifier, passive network and power supply.

This standard is not applicable to wireless headphones or noise cancelling headphones.

2. Normative references

The articles contained in the following documents have become part of this standard when they are quoted herein. For the dated documents so quoted, all the modifications (Including all corrections) or revisions made thereafter shall be applicable to this Standard.

GB/T 2423.1-2008 Environmental testing - Part 2: Test methods - Tests A: Cold

GB/T 2423.2-2008 Environmental testing - Part 2: Test methods - Tests B: Dry heat

GB/T 2423.3-2006 Environmental testing for electric and electronic products - Part 2:
Testing method test Cab: Damp heat Steady state

GB/T 2423.6-1995 Environmental testing for electric and electronic products - Part 2:
Test methods - Test Eb and guidance: Bump

GB/T 2423.10-2008 Environmental testing for electric and electronic products - Part 2:
Tests methods - Test Fc: Vibration (sinusoidal)

GB/T 2828.1-2012 Sampling procedures for inspection by attributes - Part 1: Sampling
schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection

GB/T 2829-2002 Sampling procedures and tables for periodic inspection by attributes
(Apply to inspection of process stability)

GB/T 12060.2-2011 Sound system equipment - Part 2: Explanation of general terms and calculation methods (IEC 60268-2: 1987, IDT)

GB/T 12060.7-2013 Sound system equipment - Part 7: Methods of measurement on headphones and earphones (IEC 60268-7: 2010, MOD)

GB/T 12060.11-2012 Sound system equipment - Part 11: Application of connectors for the interconnection of sound system equipment (IEC 60268-11: 1987, NEQ)

GB/T 13581 Minimum performance requirements on high fidelity head-phones

GB/T 14197 Preferred matching values for the interconnections of audio, video and audiovisual systems

3. Classification, Naming and Coding

See GB/T 12060.7-2013.

4. Application Conditions and Measurement Conditions

4.1 Measurement Conditions

4.1.1 Standard atmospheric conditions for testing

In case of no special regulation, the test methods of each technical requirement in this standard shall be performed under the standard atmospheric conditions for testing as follows:

Environmental temperature: 15°C- 35°C;

Relatively humidity: 25% - 75%;

Atmospheric pressure: 86 kPa - 106 kPa.

4.1.2 Arbitration atmospheric conditions

In case of disputes, the tests shall be performed under the following arbitration atmospheric conditions:

Environmental temperature: 20°C± 1°C;

Relatively humidity: 63% - 67%;

Atmospheric pressure: 86 kPa - 106 kPa.

8.2 Product Information Provided

The ex-factory headphones shall be at least marked with manufacturer trademark, model number and impedance. Requirements for marking connection terminal and controller are given in GB/T 12060.11-2012 and requirements for marking polarity is given in GB/T 12060.2-2011.

It is recommended that the product specifications include the following information:

- matching connectors (refer to GB/T 12060.11-2012);
- controller and switch (if any);
- microphone (if any);
- inter-connection graph of headphones (if more than one);
- classification code (refer to 4.1 in GB/T 12060.7-2013);
- description of the types of headphones;
- physical property of the headphones, such as sizes, weight, length of wire rod and varieties

If the headphones consist of components, the following information shall also be provided:

- front amplifier and/or passive network;
- receptor (for wireless systems);
- varieties of power supply, rated voltage and frequency of power supply and the maximum power consumption;
- other components, such as magnetic pickup device

The rated value, rated maximum sound pressure level or running sound pressure level, rated frequency range, rated clamping force and other information can be provided in the product specifications, for the optional use of the manufacturer.

8.3 Package

Requirements for the package technology of the headphones shall be specified by the product standards.

8.4 Transportation

The packaged headphones can be transported by normal marine, land and air vehicles. Attention shall be paid to damp resistance, earthquake resistance, exposure resistance

and heavy pressure resistance, etc. during transportation.

8.5 Storage

The packaged headphones shall be stored in warehouse with temperature ranging from -10°C to 40 °C and relative humidity lower than 90%. The warehouse shall be free of strong magnetic field and acute temperature change. And the ambient air shall be free of acid gases or other harmful gases.

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