

ICS 17.140.50

CCS A 59



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

GB/T 20441.1-2010

Replacing GB/T 11670-1989

**Electroacoustics -- Measurement microphones -- Part 1:
Specifications for laboratory standard microphones**

电声学 测量传声器 第1部分：实验室标准传声器规范

(English Translation)

Issued on: December 1, 2010

Implemented on: May 1, 2011

Issued by: Standardization Administration of China

Table of Contents

- Foreword
- 1 Scope
- 2 Normative references
- 3 Terms and Definitions

Foreword

GB/T 20441 "electric acoustic measurement microphone" is divided into seven sections.

- Part 1. Laboratory standard microphones;
- Part 2. Method using the original grade reciprocity technique of laboratory standard microphones sound pressure calibration;
- Part 3. Method using the original grade reciprocity technique of laboratory standard microphones free-field calibration;
- Part 4. Specifications for working standard microphones;
- Part 5. working standard microphones calibration by comparison method;
- Part 6. Determination of the frequency response of the electrostatic actuator;
- Part 7. difference between laboratory standard microphones free-field sensitivity and sound pressure sensitivity between.

This section GB/T 20441 Part 1.

This section identical with IEC 61094-1:2000 "Measurement microphones - Part 1. Laboratory standard microphones" (in English).

At the same time according to GB/T 1.1-2000 requirements of this section of IEC 61094-1:2000 made the appropriate editorial changes. the IEC Foreword Introduction to the country.

This Part replaces GB/T 11670-1989 "characteristic acoustic laboratory standard condenser microphones and norms." this portion of the GB/T 11670-1989 main differences.

- a) by deleting the CB1aP and CB2aP dimensions series.
- b) laboratory standard microphones by the letters "LS" (or "standard laboratory" in English initials) that, instead of her "CB".
- c) an increase LS2P and technical indicators.

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

This part mainly drafted by. Institute of Acoustics, Hengyang Heng Instrument Electric Co., Ltd., China Institute of Metrology, China Electronics Technology Group Corporation Institute.

1 Scope

This section provides the mechanical dimensions and acoustic properties used as a laboratory standard condenser microphone, so that the magnitude of the sound pressure can be achieved, and Sound pressure measurements can achieve the highest measurement accuracy. This specification to ensure that the reciprocity law for simple primary-level calibration.

This section provides press mechanical dimensions and electrical characteristics of acoustic laboratory standard condenser microphones established classification system in order to standardize calibration Methods to achieve inter-laboratory comparison, including the same in the calibration microphone and a microphone to a given calibration system under mutual different laboratories Transsexual.

2 Normative references

The following documents contain provisions which, through reference GB/T 20441 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.

IEC 60050 (801).1994 International Electrotechnical Vocabulary Chapter 801. Acoustics and electro-acoustics ASMEB1.1. 1989 Unified inch screw threads (UN and UNR thread form)

3 Terms and Definitions

The following terms and definitions apply to this section.

Note: The underlined plural.

Condenser microphone condensermicrophones the use of the microphone capacitance change work.

NOTE: condenser microphone work is achieved through a constant charge, the constant charge polarization voltage obtained from the outside, by a suitable polarization voltage having a high internal Power generating resistance.

Laboratory standard microphones laboratory standard microphone Available original level calibration method, such as a sealed coupling cavity reciprocity law, to a high accuracy calibration of condenser microphone. Consider stability over time and dependent on environmental conditions, the mechanical dimensions and acoustic properties to meet stringent requirements.

Open circuit voltage in addition to a microphone connected to its ground shield structure (the structure described in 7.2), no other electrical load, measured using the insert voltage technique of the AC voltage electrical output of the microphone for the open circuit voltage.

Unit. V, V.

NOTE: The end voltage condenser microphone relating to its load, the load generated by the microphone to the unit mechanical and electrical pre-amplifier. and so Used to measure the open circuit voltage microphone preamplifier should meet the requirements of 7.2.

Microphone pressure sensitivity pressuresensitivity of a microphone for a given frequency and given to a sinusoidal acoustic environmental conditions, the microphone open-circuit voltage and uniformly applied on microphone diaphragm (ie microphone