AS IEC 60942—2004
IEC 60942:2003

Australian Standard™

Electroacoustics—Sound calibrators

STANDARDS AUSTRALIA

This Australian Standard was prepared by Committee AV-002, Acoustics—Instrumentation and Measurement Techniques. It was approved on behalf of the Council of Standards Australia on 18 February 2004 and published on 30 March 2004.

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Electroacoustics—Sound calibrators

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PREFACE

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee AV-002, Acoustics—Instrumentation and Measurement Techniques. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard, rather than an Australian/New Zealand Standard.

This Standard is identical with and has been reproduced from IEC 60942:2003, *Electroacoustics—Sound calibrators*.

The objective of this Standard is to specify the performance requirements for three classes of sound calibrator, laboratory standard (Class LS), Class 1 and Class 2.

As this Standard is reproduced from an International Standard, the following applies:

(a) Its number does not appear on each page of text and its identity is shown only on the cover title page.

(b) In the source test 'this International Standard' should read 'this Australian Standard'.

(c) A full point substitutes for a comma when referring to a decimal marker.

This Standard provides for the use of the following Australian and Australian/New Zealand Standard as equivalent to particular International Standards referenced herein:

Reference to International Standard		*Australian/New Zealand Standard*	
IEC		AS/NZS	
61000	Electromagnetic compatibility (EMC)	61000	Electromagnetic compatibility (EMC)
61000-4-2	Part 4-2: Testing and measurement techniques—Section 2: Electrostatic discharge immunity test	61000.4.2	Part 4.2: Testing and measurement techniques—Electrostatic discharge immunity test
61000-4-3	Part 4-3: Testing and measurement techniques—Radiated, radio-frequency, electromagnetic field immunity test	61000.4.3	Part 4.3: Testing and measurement techniques—Radiated, radio-frequency, electromagnetic field immunity test
61672	Electroacoustics—Sound level meters	61672	Electroacoustics—Sound level meters
61672-1	Part 1: Specifications	61672.1	Part 1: Specifications

Any International Standard not listed has not been adopted as an Australian or Australian/New Zealand Standard.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance.

CONTENTS

INTRODUCTION

Sound calibrators are designed to produce one or more known sound pressure levels at one or more specified frequencies when coupled to specified models of microphone in specified configurations, for example, with or without protective grid. The sound pressure level generated by a sound calibrator may depend on environmental conditions such as static pressure, air temperature and relative humidity.

Sound calibrators have two principal applications:

a) the determination of the electroacoustical pressure sensitivity of specified models of microphone in specified configurations;

b) checking or adjusting the overall sensitivity of acoustical measuring devices or systems.

STANDARDS AUSTRALIA

Electroacoustics—Sound calibrators

1 Scope

This International Standard specifies the performance requirements for three classes of sound calibrator: laboratory standard (class LS), class 1 and class 2. Tolerance limits are smallest for class LS and greatest for class 2 instruments. Class LS sound calibrators are normally used only in the laboratory; class 1 and class 2 are considered as sound calibrators for field use. A class 1 sound calibrator is primarily intended for use with a class 1 sound level meter and a class 2 sound calibrator primarily with a class 2 sound level meter, as specified in IEC 61672-1.

The tolerance limits for class LS sound calibrators are based on the use of a laboratory standard microphone, as specified in IEC 61094-1, for demonstrations of conformance to the requirements of this standard. The tolerance limits for class 1 and class 2 sound calibrators are based on the use of a working standard microphone, as specified in IEC 61094-4, for demonstrations of conformance to the requirements of this standard.

A multi-level and multi-frequency sound calibrator has the same class designation for all sound pressure level and frequency combinations for which the instruction manual states that the instrument conforms to the requirements of this standard.

This standard does not include requirements for equivalent free-field or random-incidence sound pressure levels, such as may be used in the overall sensitivity adjustment of a sound level meter.

A sound calibrator may provide other functions, for example, tonebursts. Requirements for these other functions are not included in this standard.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050(801):1994, *International Electrotechnical Vocabulary (IEV) – Chapter 801: Acoustics and electroacoustics*

IEC 61000-4-2:1995, *Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – Section 2: Electrostatic discharge immunity test.* Basic EMC Publication

IEC 61000-4-3:2002, *Electromagnetic compatibility (EMC) – Part 4-3: Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test.* Basic EMC Publication