AS IEC 61672.1—2004
IEC 61672-1:2002

Australian Standard™

Electroacoustics—Sound level meters

Part 1: Specifications

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 3 February 2004 and published on 7 April 2004.

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This Standard was issued in draft form for comment as DR 03572.

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Electroacoustics—Sound level meters

Part 1: Specifications

Originated as AS Z37—1967 and AS Z38—1967.
Previous edition AS 1259.1—1990 and AS 1259.2—1990.
AS 1259.1—1990 and AS 1259.2—1990 revised, amalgamated and redesignated in part as AS IEC 61672.1—2004.

Published by Standards Australia International Ltd
GPO Box 5420, Sydney, NSW 2001, Australia

ISBN 0 7337 5786 3

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 supersedes in part AS 1259.1—1990, *Sound level meters*, Part 1: *Non-integrating* and AS 1259.2—1990, *Acoustics—Sound level meters*, Part 2: *Integrating—Averaging*

This Standard is identical with and has been reproduced from IEC 61672.1, *Electroacoustics—Sound level meters,* Part 1: *Specifications*.

The objective of this Standard is to give electroacoustical performance specifications of sound level meters.

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) 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 Standards as equivalent to particular International Standards reference herein:

Reference to International Standard		*Australian Standard*	
IEC		AS IEC	
60942	Electroacoustics—Sound calibrators	60942	Electroacoustics—Sound calibrators
61000	Electromagnetic compatibility (EMC)	61000	Electromagnetic compatibility (EMC)
61000-4-2	Part 4-2: Testing and measuring techniques—Electrostatic discharges immunity tests	61000.4.2	Part 4.2: Testing and measuring techniques—Electrostatic discharges immunity tests
61000-6-2	Part 6-2: Generic standards—Immunity for industrial equipment	61000.6.2	Part 6.2: Generic standards—Immunity for industrial equipment

Any International Standard not listed has not been adopted as an Australian Standards.

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

CONTENTS

NOTES

AUSTRALIAN STANDARD

Electroacoustics—Sound level meters

Part 1:

Specifications

1 Scope

1.1 This standard gives electroacoustical performance specifications for three kinds of sound measuring instruments:

– a conventional sound level meter that measures exponential time-weighted sound level;

– an integrating-averaging sound level meter that measures time-average sound level, and

– an integrating sound level meter that measures sound exposure level.

A single instrument may make any, or all, of the three kinds of measurements. Additional performance specifications are given for the measurement of maximum time-weighted sound level and peak C sound level. Frequency-weighting A is mandatory for all sound level meters specified in this standard.

1.2 Sound level meters conforming to the requirements of this standard have a specified frequency response for sound incident on the microphone from one principal direction in an acoustic free field or from random directions.

1.3 Sound level meters specified in this standard are intended to measure sounds generally in the range of human hearing.

NOTE For measurement of audible sound in the presence of ultrasound, the AU weighting, specified in IEC 61012 [1], may be applied.[1]

1.4 Two performance categories, class 1 and class 2, are specified in this standard. In general, specifications for class 1 and class 2 sound level meters have the same design goals and differ mainly in the tolerance limits and the range of operational temperatures. Tolerance limits for class 2 specifications are greater than, or equal to, those for class 1 specifications.

1.5 This standard is applicable to a range of designs for sound level meters. A sound level meter may be a self-contained hand-held instrument with an attached microphone and a built-in display device. A sound level meter may be comprised of separate components in one or more enclosures and may be capable of displaying a variety of acoustical signal levels. Sound level meters may include extensive analogue or digital signal processing, separately or in combination, with multiple analogue and digital outputs. Sound level meters may include general-purpose computers, recorders, printers, and other devices that form a necessary part of the complete instrument.

[1] Numbers in square brackets refer to the bibliography.