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IEC 1260:1995

Australian/New Zealand Standard[®]

**Acoustics—Octave-band and
fractional-octave-band filters**

[IEC title: Electroacoustics — Octave-band and fractional-octave-band filters]

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Australian/New Zealand Standard[®]

**Acoustics—Octave-band and
fractional-octave-band filters**

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee AV/2, Acoustics, Instrumentation and Measurement Techniques, to supersede AS Z41—1969, *Octave, half octave and one-third octave band pass filters intended for the analysis of sound and vibrations* and NZS 1499:1965, *Specification for octave and one-third octave band-pass filters*.

The objective of this Standard is to provide performance requirements and methods for testing the performance of band pass filters that comprise a filter set or spectrum analyser for use in the measurement of sound.

This Standard is identical with and has been reproduced from IEC 1260:1995, *Electroacoustics—Octave-band and fractional-octave-band filters*.

The term ‘informative’ has been used in this Standard to define the application of the appendix to which it applies. An ‘informative’ appendix is only for information and guidance.

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References to international Standards should be replaced by equivalent Australian or Australian/New Zealand Standards, as follows:

<i>Reference to International Standard or other publication</i>	<i>Australian/New Zealand Standard</i>
IEC 50 International Electrotechnical Vocabulary (IEV)	AS
50(801) Chapter 801: Acoustics and electro-acoustics	—
651 Sound level meters	1259 Acoustics—Sound level meters
651/Amdt 1 Amendment 1	1259.1 Non-integrating
801.2 Electromagnetic compatibility for industrial-process measurement and control equipment Part 2: Electrostatic discharge requirements	—
801.3 Electromagnetic compatibility for industrial-process measurement and control equipment Part 3: Radiated electromagnetic field requirements	—

IEC		AS ⁴	
804	Integrating-averaging sound level meters	1259	Acoustics—Sound level meters
		1259.2	Integrating—Averaging
804/Amdt 1	Amendment 1		
804/Amdt 2	Amendment 2		
ISO			
266	Acoustics—Preferred frequencies for measurements	2533	Acoustics—Preferred frequencies for measurements
OIML	Vocabulary of legal metrology— Fundamental terms	—	

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AUSTRALIAN/NEW ZEALAND STANDARD

Acoustics—Octave-band and fractional-octave-band filters

1 Scope

1.1 This International Standard provides performance requirements and methods for testing the performance of analogue, sampled-data, and digital implementations of band-pass filters that comprise a filter set or spectrum analyser. The extent of the passband region of a filter's relative attenuation characteristic is a constant percentage of the midband frequency for all filters of a given bandwidth. An instrument complying with the requirements of this International Standard may contain any number of bandpass filters covering any desired frequency range.

1.2 Performance requirements are provided for three filter classes designated class 0, class 1, and class 2. Allowed tolerances increase as the class number increases.

1.3 Bandpass filters complying with the performance requirements of this standard may be part of various measurement systems or may be an integral component of a specific instrument and shall operate in real time. Performance requirements apply to any method that is selected by the manufacturer to implement the design of the filters.

1.4 Instruments complying with the requirements of this standard are capable of providing frequency-band-filtered spectral information for a wide variety of signals, for example, time-varying, intermittent, and steady; broadband and discrete frequency; and long and short durations. For applications involving transient signals, different realizations of filters meeting the requirements of this standard may give different results.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of the IEC and ISO maintain registers of currently valid International Standards.

IEC 50(801): 1994, *International Electrotechnical Vocabulary (IEV) — Chapter 801: Acoustics and electro-acoustics*

IEC 651:1979, *Sound level meters*
Amendment 1:1993

IEC 801-2: 1991, *Electromagnetic compatibility for industrial-process measurement and control equipment — Part 2: Electrostatic discharge requirements*



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