AS/NZS 13818.4:2002
ISO/IEC 13818-4:1998
ISO/IEC 13818-4:1998/Amd 1:1999
ISO/IEC 13818-4:1998/Amd 2:2000
ISO/IEC 13818-4:1998/Amd 3:2000
ISO/IEC 13818-4:1998/Corr.2:1998

Australian/New Zealand Standard™

Information technology—Generic coding of moving pictures and associated audio information

Part 4: Conformance testing

Standards Australia

STANDARDS NEW ZEALAND
Paerewa Aotearoa

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee IT-001, Information Systems—Interconnections. It was approved on behalf of the Council of Standards Australia on 23 August 2002 and on behalf of the Council of Standards New Zealand on 20 August 2002. It was published on 28 November 2002.

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Australian Communications Industry Forum
Australian Information Industry Association
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Australian Vice-Chancellors Committee
Electrical Compliance Testing Association
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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee IT-001, Information Systems—Interconnections. This Standard is identical with and has been reproduced from ISO/IEC 13818-4:1998, *Information technology—Generic coding of moving pictures and associated audio information,* Part 4: *Conformance testing*, Amendment 1:1999, Amendment 2:2000, Amendment 3:2000 and Technical Corrigendum 2:1998 which are bound at the back of this Standard.

The objective of this Standard is to specify how tests can be designed to verify whether bitstreams and decoders meet requirements specified in Parts 1, 2 and 3 of ISO/IEC 13818.

This Standard is Part 4 of AS/NZS 13818, *Information technology—Generic coding of moving pictures and associated audio information*, which is published in parts as follows:

Part 1: Systems
Part 2: Video
Part 3: Audio
Part 4: Conformance testing (this Standard)
Part 5: Software simulation
Part 6: Extensions for DSM-CC
Part 7: Advanced audio coding
Part 9: Extension for real time interface for systems decoders
Part 10: Conformance extensions for digital storage media command and control

The term ‘normative’ has been used in this Standard to define the application of the annex to which it applies. A ‘normative’ annex is an integral part of a Standard.

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 and title page.

(b) In the source text ‘this International Standard’ should read ‘this Australian/New Zealand Standard’.

(c) A full point should be substituted for a comma when referring to a decimal marker.

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

Reference to International Standard		*Australian/New Zealand Standard*	
ISO/IEC			
10918	Information technology—Digital compression and coding of continuous-tone still images	4473	Information technology—Digital compression and coding of continuous-tone still images
10918-1	Part 1: ` Requirements and guidelines	4473.1	Part 1: Requirements and guidelines
11172	Information technology—Coding of moving pictures and associated audio for digital storage media at up to about 1.5 Mbit/s	4230	Information technology—Coding of moving pictures and associated audio for digital storage media at up to about 1.5 Mbit/s
11172-1	Part 1: Systems	4230.1	Part 1: Systems
11172-2	Part 2: Video	4230.2	Part 2: Video
11172-3	Part 3: Audio	4230.3	Part 3: Audio
11172-4	Part 4: Conformance testing	4230.4	Part 4: Compliance testing

ISO/IEC			
13818	Information technology—Generic coding of moving pictures and associated audio information	13818	Information technology—Generic coding of moving pictures and associated audio information
13818-1	Part 1: Systems	13818.1	Part 1: Systems
13818-2	Part 2: Video	13818.2	Part 2: Video
13818-3	Part 3: Audio	13818.3	Part 3: Audio

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Information technology — Generic coding of moving pictures and associated audio information —

Part 4:

Conformance testing

1 General

1.1 Scope

This part of ISO/IEC 13818 specifies how tests can be designed to verify whether bitstreams and decoders meet requirements specified in parts 1, 2 and 3 of ISO/IEC 13818. In this part of ISO/IEC 13818, encoders are not addressed specifically. An encoder may be said to be an ISO/IEC 13818 encoder if it generates bitstreams compliant with the syntactic and semantic bitstream requirements specified in parts 1, 2 and 3 of ISO/IEC 13818.

Characteristics of coded bitstreams and decoders are defined for parts 1, 2 and 3 of ISO/IEC 13818. The characteristics of a bitstream define the subset of the standard that is exploited in the bitstream. Examples are the applied values or range of the picture size and bitrate parameters. Decoder characteristics define the properties and capabilities of the applied decoding process. An example of a property is the applied arithmetic accuracy. The capabilities of a decoder specify which coded bitstreams the decoder can decode and reconstruct, by defining the subset of the standard that may be exploited in decodable bitstreams. A bitstream can be decoded by a decoder if the characteristics of the coded bitstream are within the subset of the standard specified by the decoder capabilities.

Procedures are described for testing conformance of bitstreams and decoders to the requirements defined in parts 1, 2 and 3 of ISO/IEC 13818. Given the set of characteristics claimed, the requirements that must be met are fully determined by parts 1, 2 and 3 of ISO/IEC 13818. This part of ISO/IEC 13818 summarises the requirements, cross references them to characteristics, and defines how conformance with them can be tested. Guidelines are given on constructing tests to verify bitstream and decoder conformance. This document gives guidelines on how to construct bitstream test suites to check or verify decoder conformance. In addition, some test bitstreams implemented according to those guidelines are provided in the electronic file directory called “Test bitstreams”.

1.2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO/IEC 13818. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO/IEC 13818 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 639:1988, *Code for the representation of names of languages.*

ISO/IEC 8859-1:1998, *Information technology — 8-bit single-byte coded graphic character sets — Part 1: Latin alphabet No. 1.*

ISO/IEC 10918-1:1994, *Information technology — Digital compression and coding of continuous-tone still images: Requirements and guidelines.* (See also ITU-T Rec. T.81.)

ISO/IEC 11172-1:1993, *Information technology — Coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mbit/s — Part 1: Systems.*

ISO/IEC 11172-2:1993, *Information technology — Coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mbit/s — Part 2: Video*.

ISO/IEC 11172-3:1993, *Information technology — Coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mbit/s — Part 3: Audio*.

AS/NZS 13818.4:2002, Information technology - Generic coding of moving pictures and associated audio information Conformance testing