AS ISO/IEC 12087.5:2015
ISO/IEC 12087-5:1998
ISO/IEC 12087-5:1998/Cor 1:2001
ISO/IEC 12087-5:1998/Cor 2:2002

AS ISO/IEC 12087.5:2015

Australian STANDARD

Information technology—Computer graphics and image processing—Image Processing and Interchange (IPI)—Functional specification

Part 5: Basic Image Interchange Format (BIIF)

STANDARDS Australia

This Australian Standard® was prepared by Committee IT-031, Computer Modelling and Simulation. It was approved on behalf of the Council of Standards Australia on 20 April 2015. This Standard was published on 12 May 2015.

The following are represented on Committee IT-031:

- ANZLIC—The Spatial Information Council
- Department of Defence (Australia)
- Simulation Australia

This Standard was issued in draft form for comment as DR AS ISO/IEC 12087.5:2015.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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Australian Standard®

Information technology—Computer graphics and image processing—Image Processing and Interchange (IPI)—Functional specification

Part 5: Basic Image Interchange Format (BIIF)

First published as AS ISO/IEC 12087.5:2015.

Published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001, Australia

ISBN 978 1 76035 047 5

PREFACE

This Standard was prepared by the Standards Australia Committee IT-031, Computer Modelling and Simulation.

The objective of this Standard is to establish the specification of the Basic Image Information Image Format (BIIF). BIIF is a standard developed to provide a foundation for interoperability in the interchange of imagery and imagery-related data among applications. This Standard provides a detailed description of the overall structure of the format, as well as specification of the valid data and format for all fields defined with BIIF. Annex C contains a model profile in tabular format to assist in profile development.

This Standard is identical with, and has been reproduced from ISO/IEC 12087-5:1998, *Information technology—Computer graphics and image processing—Image Processing and Interchange (IPI)—Functional specification*, Part 5: *Basic Image Interchange Format (BIIF)* and its Corrigendum 1 (2001) and Corrigendum 2 (2002) which has been added at the end of the source text.

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

(a) In the source text 'this part of ISO/IEC 12087' should read 'this Australian Standard'.

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

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

Reference to International Standard		*Australian Standard*	
ISO		AS ISO	
8601	Data elements and interchange formats—Information interchange—Representation of dates and times	8601	Data elements and interchange formats—Information interchange—Representation of dates and times
ISO/IEC		AS ISO/IEC	
9973	Information technology—Computer graphics, image processing and environmental data representation—Procedures for registration of items	9973	Information technology—Computer graphics, image processing and environmental data representation—Procedures for registration of items
12087	Information technology—Computer graphics and image processing—Image Processing and Interchange (IPI)—Functional specification	12087	Information technology—Computer graphics and image processing—Image Processing and Interchange (IPI)—Functional specification
12087-1	Part 1: Common architecture for imaging	12087.1	Part 1: Common architecture for imaging
12087-2	Part 2: Programmer's imaging kernel system application programme interface	12087.2	Part 2: Programmer's imaging kernel system application programme interface
12087-3	Part 3: Image Interchange Facility (IIF)	12087.3	Part 3: Image Interchange Facility (IIF)

Only normative references that have been adopted as Australian or Australian/New Zealand Standards have been listed.

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

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1 Scope

This part of ISO/IEC 12087 establishes the specification of the Basic Image Interchange Format (BIIF) part of the standard. BIIF is a standard developed to provide a foundation for interoperability in the interchange of imagery and imagery-related data among applications. This part of ISO/IEC 12087 provides a detailed description of the overall structure of the format, as well as specification of the valid data and format for all fields defined with BIIF. Annex C contains a model profile in tables to assist in profile development.

As part of the ISO/IEC 12087 family of image processing and interchange standards, BIIF conforms to the architectural and data object specifications of ISO/IEC 12087-1, the Common Architecture for Imaging. BIIF supports a profiling scheme that is a combination of the approaches taken for ISO/IEC 12087-2 (PIKS), ISO/IEC 10918 (JPEG), ISO/IEC 8632 (CGM), and ISO/IEC 9973 (The Procedures for Registration of Graphical Items). It is intended that profiles of the BIIF will be established as an International Standardised Profile (ISP) through the normal ISO processes (ISO/IEC TR 10000).

The scope and field of application of this part of ISO/IEC 12087 includes the capability to perpetuate a proven interchange capability in support of commercial and government imagery, Programmer's Imaging Kernel System Data, and other imagery technology domains in that priority order.

This part of ISO/IEC 12087 provides a data format container for image, symbol, and text, along with a mechanism for including image-related support data.

This part of ISO/IEC 12087 satisfies the following requirements:

- Provides a means whereby diverse applications can share imagery and associated information.
- Allows an application to exchange comprehensive information to users with diverse needs or capabilities, allowing each user to select only those data items that correspond to their needs and capabilities.
- Minimizes preprocessing and postprocessing of data.
- Minimizes formatting overhead, particularly for those applications exchanging only a small amount of data and for bandwidth-limited systems.
- Provides a mechanism (Transportable File Structure, TFS) to interchange PIKS image and image-related objects
- Provides extensibility to accommodate future data, including objects.

When the extensibility of this part of ISO/IEC 12087, or the inherent constraints of the structured format of BIIF, do not meet the needs of a more complex application, the concepts and features of 12087-3 (IIF) should be considered as a more appropriate method of image interchange. For example, the ability to support complex combinations of heterogeneous pixel types, self defining pixel structures, or abstract structures can be done with IIF.