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Electronic still picture imaging — Removable memory —

Part 3: XMP for digital photography

Image électronique de photographie — Mémoire amovible —

Partie 3: Utilisation du XMP

Reference number
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/TC 42, *Photography*.

ISO 12234 consists of the following parts, under the general title *Electronic still-picture imaging — Removable memory*:

— *Part 1: Basic removable-memory model*

— *Part 2: TIFF/EP image data format*

— *Part 3: XMP for digital photography*

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Introduction

Metadata enables digital images to be more easily searched and located (e.g. by knowing more about the image), more appropriately processed and printed (e.g. by knowing the picture-taking conditions), and more appropriately stored and shared (e.g. by knowing the GPS location of the image and the copyright owner).

Several different TIFF-based metadata formats are commonly used in digital cameras, while XML-encoded metadata is commonly used in on-line image databases.

The purposes of this part of ISO 12234 are, first, to define unambiguously a mapping for metadata properties that are most relevant to digital photography into XMP and, second, to document the meaning of each metadata item.

This part of ISO 12234 is independent of the format of the image file, could be used inside any image file, and could be used in databases of image-related metadata.

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Electronic still picture imaging — Removable memory —

Part 3:
XMP for digital photography

1 Scope

This part of ISO 12234 defines an XMP namespace for the metadata used in digital photography applications that is formatted for exchange using the syntax of the XML and provides standard definitions of this metadata.

2 Normative references

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

ISO 8601, *Data elements and interchange formats — Information interchange — Representation of dates and times*

ISO 12232, *Photography — Digital still cameras — Determination of exposure index, ISO speed ratings, standard output sensitivity, and recommended exposure index*

ISO 12234-2, *Electronic still-picture imaging — Removable memory — Part 2: TIFF/EP image data format*

ISO 14524, *Photography — Electronic still-picture cameras — Methods for measuring opto-electronic conversion functions (OECFs)*

ISO 16684-1:2012, *Graphic technology — Extensible metadata platform (XMP) specification — Part 1: Data model, serialization and core properties*

ISO/IEC 15444-1, *Information Technology — JPEG 2000 image coding system: Core coding system*

ISO/IEC 15444-2, *Information Technology — JPEG 2000 image coding system — Extensions*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
Exif
image file format which specifies the formats to be used for images, sound, and tags in digital still cameras standardized by CIPA (Camera and Imaging Products Association) and JEITA (Japan Electronics and Information Technology Industries Association)

Note 1 to entry: Exif is abbreviation of “Exchangeable image file format for digital still cameras”.

3.2
namespace
set of unique names that are used to unambiguously label the elements in related data sets

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3.3
property
named container for a metadata value at the top level of an XMP packet

[SOURCE: ISO 16684-1:2012, 3.5]

3.4
Uniform Resource Identifier
URI
compact sequence of characters that identifies an abstract or physical resource

[SOURCE: ISO 16684-1:2012, 3.8 modified.]

4 Reference model and usage

4.1 General considerations

Figure 1 summarizes the reference model for this part of ISO 12234.

This part of ISO 12234 defines metadata for digital photography and identifies the XMP namespaces used to encode this metadata.

The metadata shall be encoded using the XMP data model and serialization defined in ISO 16684-1.

The metadata includes a number of items that are defined in ISO 16684-1, in Reference [11] or in Reference [6] as indicated in the descriptions of the metadata items included in Clause 6.

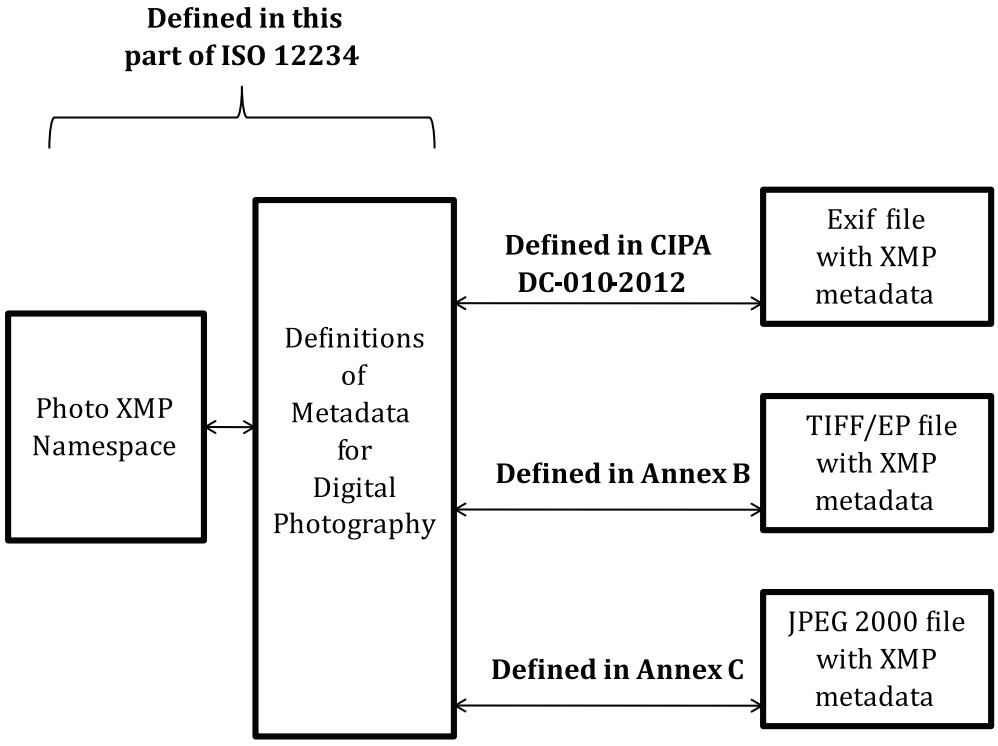


Figure 1 — Reference model

4.2 Native metadata properties and their usage

For Exif, TIFF, and JPEG 2000 file formats supported technical metadata items, only TIFF tags, Exif tags and/or JPEG 2000 boxes should be stored respectively when any one of these file formats is used

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