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AMENDMENT 1
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Information technology — Multimedia application format (MPEG-A) —

Part 3: MPEG photo player application format

AMENDMENT 1: Reference software for photo player MAF

Technologies de l'information —Format pour application multimédia (MPEG-A) —

Partie 3: Format pour application «MPEG photo player»

AMENDEMENT 1: Logiciel de référence pour lecteur photo MAF

Reference number
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Foreword

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The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

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Amendment 1 to ISO/IEC 23000-3:2007 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

Information technology —Multimedia application format (MPEG-A) —

Part 3:
MPEG photo player application format

AMENDMENT 1: Reference software for photo player MAF

After Annex E, add the following new annex:

Annex F
(informative)

Reference software

The reference software consists of (a) functional components and (b) command-line programs.

A) The following components are provided

Functional unit	Software module name
I/O Subroutines and MPEG-4 File system	libisomedia
User Interface (command line or GUI)	(command line programs as below)
BiM encoder/decoder	ppbim
Visual D extraction engine	xmvisual

B) The following command line programs are provided

Name	Function
pp_itembuilder	Builds a Photo-Player MP4 file
pp_dataparser	Lists image collections contained in a Photo-Player MP4 file.
pp_getimage	Extracts image(s) and corresponding item-level metadata from a Photo-Player MP4 file

Examples of usage:

```
pp_itembuilder collection.xml list.txt pp_item.mp4
```

This command builds a Photo-Player MP4 file.

- The first argument is a file containing collection-level metadata.
- The second argument is a file containing an image list. Each line of the image list should contain an image identifier followed by the image file name and item-level metadata file. They should be separated by commas or semicolons – for example, as follows:

```
1;image1.jpg;image1.xml
2;image2.jpg;image2.xml
```

The item-level metadata will be appended by visual features: Dominant Color, Color Layout, Color Structure, Edge Histogram, Scalable Color, and Homogeneous Texture. Visual features are extracted from the images. If the item-level metadata points to external (primary) resource, visual features are not extracted – that is, the external file is not accessed. Image identifiers should corespond to track identifiers (track_ID) in collection-level metadata. Each track id in collection-level metadata should have a corresponding image in the image list.

```
pp_dataparser pp_item.mp4
```

This command lists image collections contained in a Photo-Player MP4 file. The collection listing prints collection names, track ids of resources in the collections, the type of resource: internal/external, and media URIs of external primary resources.

```
pp_getimage pp_item.mp4

pp_getimage pp_item.mp4 2
```

The first command extracts all images and all item-level metadata files from Photo-Player MP4 file. The second command extracts only the image referenced in the MP4 file by a track identifier specified as the second parameter (track_ID=2), and item-level metadata corresponding to the image. The file names of the extracted image and its metadata are created by adding extensions ".jpg" and ".xml" to the track identifier.