INTERNATIONAL STANDARD

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Digital cinema (D-cinema) packaging —

Part 8: Packing list

Emballage du cinéma numérique (cinéma D) —

Partie 8: Liste d'emballage

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

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

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.

ISO 26429-8 was prepared by Technical Committee ISO/TC 36, *Cinematography*.

ISO 26429-8 was prepared by the Society of Motion Picture and Television Engineers (as SMPTE 429-8-2007) and was adopted, under a special "fast-track procedure", by Technical Committee ISO/TC 36, *Cinematography*, in parallel with its approval by the ISO member bodies.

ISO 26429 consists of the following parts, under the general title *Digital cinema (D-cinema) packaging*:

— *Part 3: Sound and picture track file* [equivalent to SMPTE 429-3]

— *Part 4: MXF JPEG 2000 application* [equivalent to SMPTE 429-4]

— *Part 6: MXF track file essence encryption* [equivalent to SMPTE 429-6]

— *Part 7: Composition playlist* [equivalent to SMPTE 429-7]

— *Part 8: Packing list* [equivalent to SMPTE 429-8]

— *Part 9: Asset mapping and file segmentation* [equivalent to SMPTE 429-9]

— *Part 10: Stereoscopic picture track file* [equivalent to SMPTE 429-10]

Introduction

This part of ISO 26429 comprises SMPTE 429-8-2007 and Annex ZZ (which provides equivalences between ISO standards and SMPTE standards referenced in the text).

The International Organization for Standardization (ISO) draws attention to the fact that it is claimed that compliance with this document may involve the use of a patent.

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The holder of this patent right has assured ISO that he is willing to negotiate licences under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with ISO. Information may be obtained from:

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SMPTE 429-8-2007

SMPTE STANDARD

D-Cinema Packaging — Packing List

Table of Contents

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Foreword

SMPTE (the Society of Motion Picture and Television Engineers) is an internationally-recognized standards developing organization. Headquartered and incorporated in the United States of America, SMPTE has members in over 80 countries on six continents. SMPTE's Engineering Documents, including Standards, Recommended Practices and Engineering Guidelines, are prepared by SMPTE's Technology Committees. Participation in these Committees is open to all with a bona fide interest in their work. SMPTE cooperates closely with other standards-developing organizations, including ISO, IEC and ITU.

SMPTE Engineering Documents are drafted in accordance with the rules given in Part XIII of its Administrative Practices.

SMPTE 429-8 was prepared by Technology Committee DC28.

1 Scope

This standard specifies the data format for interchange of a Packing List for Digital Cinema applications.

The electronic or physical form of a complete package described by a Packing List is beyond the scope of this standard.

2 Conformance Notation

Normative text is text that describes elements of the design that are indispensable or contains the conformance language keywords: "shall", "should", or "may". Informative text is text that is potentially helpful to the user, but not indispensable, and can be removed, changed, or added editorially without affecting interoperability. Informative text does not contain any conformance keywords.

All text in this document is, by default, normative, except: the Introduction, any section explicitly labeled as "Informative" or individual paragraphs that start with "Note:"

The keywords "shall" and "shall not" indicate requirements strictly to be followed in order to conform to the document and from which no deviation is permitted.

The keywords, "should" and "should not" indicate that, among several possibilities, one is recommended as particularly suitable, without mentioning or excluding others; or that a certain course of action is preferred but not necessarily required; or that (in the negative form) a certain possibility or course of action is deprecated but not prohibited.

The keywords "may" and "need not" indicate courses of action permissible within the limits of the document.

The keyword “reserved” indicates a provision that is not defined at this time, shall not be used, and may be defined in the future. The keyword “forbidden” indicates “reserved” and in addition indicates that the provision will never be defined in the future.

3 Normative References

The following standards contain provisions which, through reference in this text, constitute provisions of this recommended practice. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this recommended practice are encouraged to investigate the possibility of applying the most recent edition of the standards indicated below.

1. World Wide Web Consortium (W3C) (2004, February 4). *Extensible Markup Language (XML) 1.0 (Third Edition).*

2. World Wide Web Consortium (W3C) (2004, October 28). *XML Schema Part 1: Structures (Second Edition).*

3. World Wide Web Consortium (W3C) (2004, October 28). *XML Schema Part 2: Datatypes (Second Edition)*.

4. World Wide Web Consortium (W3C) Recommendation (12 February 2002). *XML-Signature Syntax and Processing*.

5. Internet Engineering Task Force (IETF) RFC3174 (September 2001) *US Secure Hash Algorithm 1*

6. Internet Engineering Task Force (IETF) RFC2045 (November 1996) *Multipurpose Internet Mail Extensions (MIME) Part One: Format of Internet Message Bodies*

7. Internet Engineering Task Force (IETF) RFC2046 (November 1996) *Multipurpose Internet Mail Extensions (MIME) Part Two: Media Types*

8. Internet Engineering Task Force (IETF) (1996, November). RFC 2396 – *Uniform Resource Identifiers (URI): Generic Syntax.*

9. Internet Engineering Task Force (IETF) (2005, July). RFC 4122 – *A Universally Unique Identifier (UUID) URN Namespace*.

10. Internet Engineering Task Force (IETF) (2001, April) RFC 4051 – *Additional XML Security Uniform Resource Identifiers (URIs)*.

4 Overview

The packing list specifies the contents of a distribution package. A distribution package shall contain one packing list together with Composition Playlist assets, essence assets and other assets as needed to complete the package. The packing list has a list of elements that define the distribution package together with a list of references to all the assets in the package. This list contains the Ids that uniquely identify each asset in the package.

Figure 1 illustrates the abstract form of a complete package for a trailer and a single reel feature.

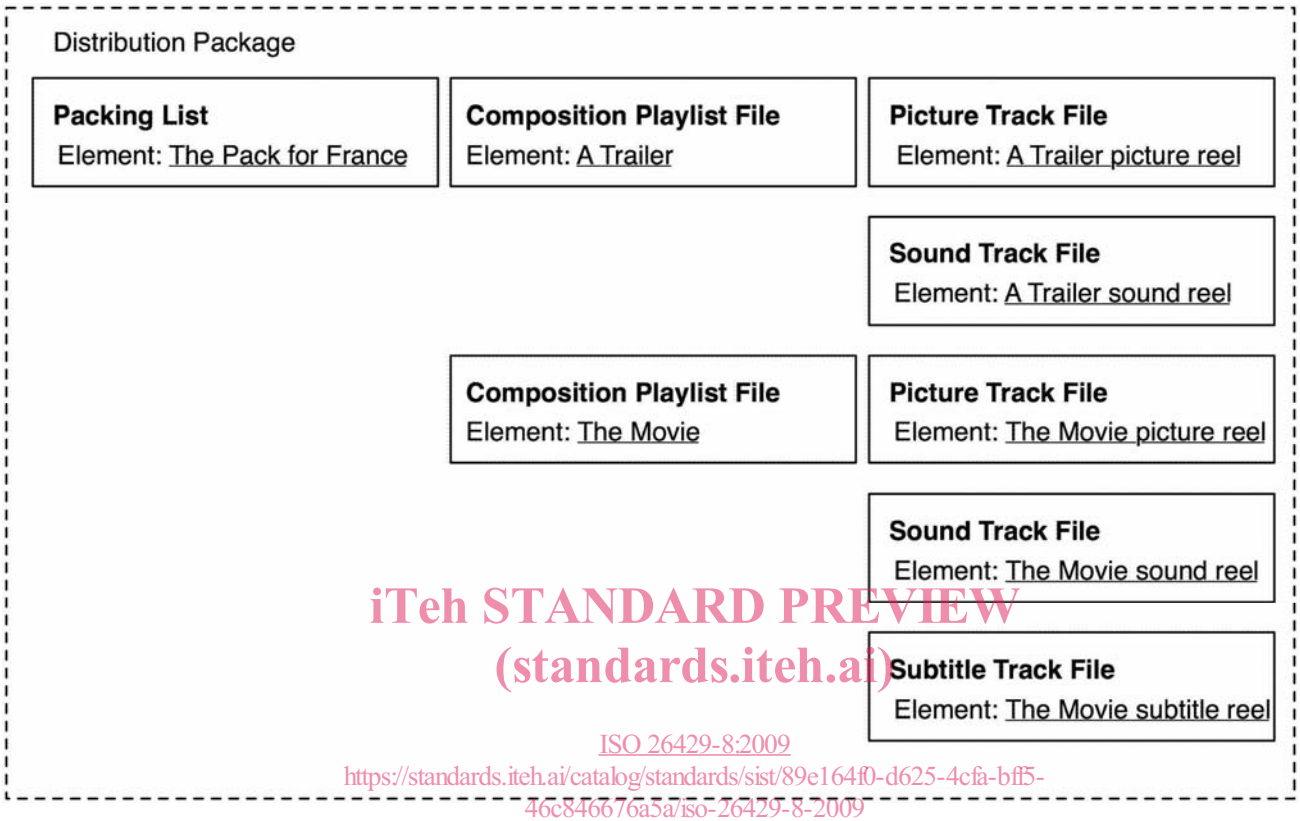

Figure 1 – Typical Distribution Package (Informative)

Figure 2 illustrates the abstract form of a partial Packing List, in which a replacement “reel” is being sent to theatres. This may be created, for example, to distribute a change in the end credits of a feature. Note that this partial package includes picture, sound and subtitle track files, and a Composition Playlist file that references those files as well as files from a previously delivered package. The example package shown in Figure 2 is not related to the example package shown in Figure 1.

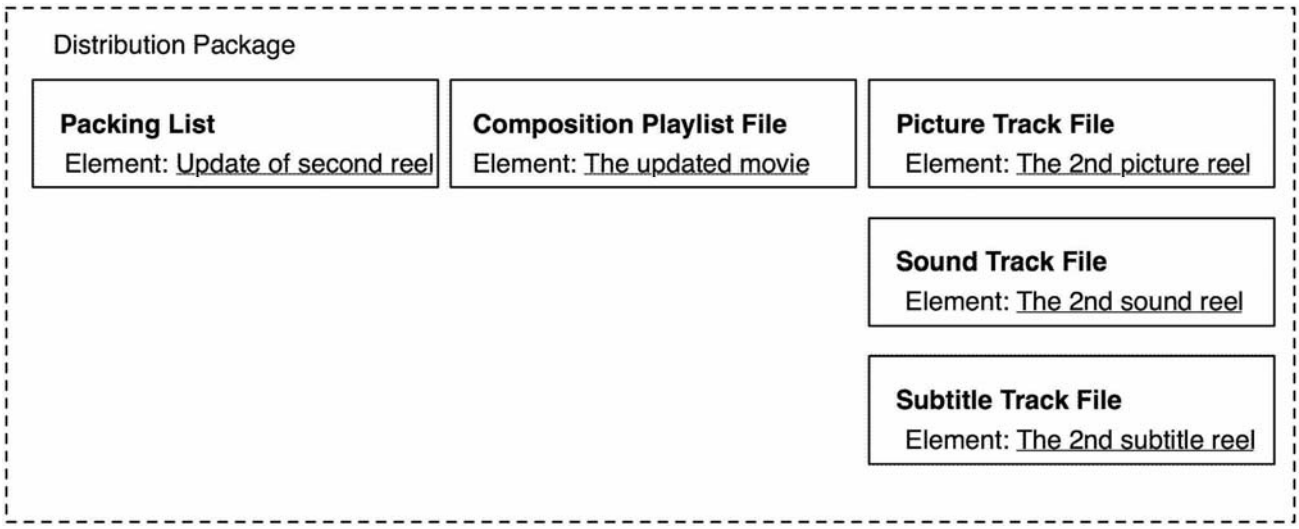

Figure 2 – Typical Partial Distribution Package (Informative)

4.1 Use of XML Language

The structures defined in this document are represented using the Extensible Markup Language (XML) [XML 1.0], and specified using XML Schema [XML Schema Part 1: Structures] and Datatypes [XML Schema Part 2: Datatypes]. This specification shall be associated with a unique XML namespace name [Namespaces in XML]. The namespace name shall be the string value "http://www.smpte-ra.org/schemas/429-8/2007/PKL". This namespace name conveys both structural and semantic version information, and serves the purpose of a traditional version number field.

Table 1 lists the XML namespace names used in this specification. Namespace names are represented as Uniform Resource Identifier (URI) values [RFC 2396][1].

Table 1 – XML Namespaces

Qualifier	*URI*
pkl	http://www.smpte-ra.org/schemas/429-8/2007/PKL
xs	http://www.w3.org/2001/XMLSchema
ds	http://www.w3.org/2000/09/xmldsig#

The URIs found in Table 1 are normative. The namespace qualifier values (also called namespace prefixes in XML jargon) used in Table 1 and elsewhere in this document, namely "pkl", "xs" and "ds", are not normative. Specifically, they may be replaced in instance documents by any XML compliant namespace prefix. In other words, implementations shall expect any arbitrary XML compliant namespace prefix value that is associated with a URI from table 1.

[1] Readers unfamiliar with URI values as XML namespace names should be aware that although a URI value begins with a "method" element ("http" in this case), the value is designed primarily to be a unique string and does not necessarily correspond to an actual on-line resource. Applications implementing this standard should not attempt to resolve URI values on-line.

Datatypes from other schemas that are used in this document will be prefixed with the appropriate namespace qualifier (e.g., `xs:dateTime`). See [XML Schema Part 2: Datatypes] and [XML-Signature Syntax and Processing] for further information about these types.

The MIME type [IETF RFC 2046] for a document containing a single `PackingList` element as its root shall be “`text/xml`”.

5 PackingList Structure

A Packing List shall be encoded as an XML document [XML 1.0]. The top-level element shall be designated PackingList, and is described in Figure 3.

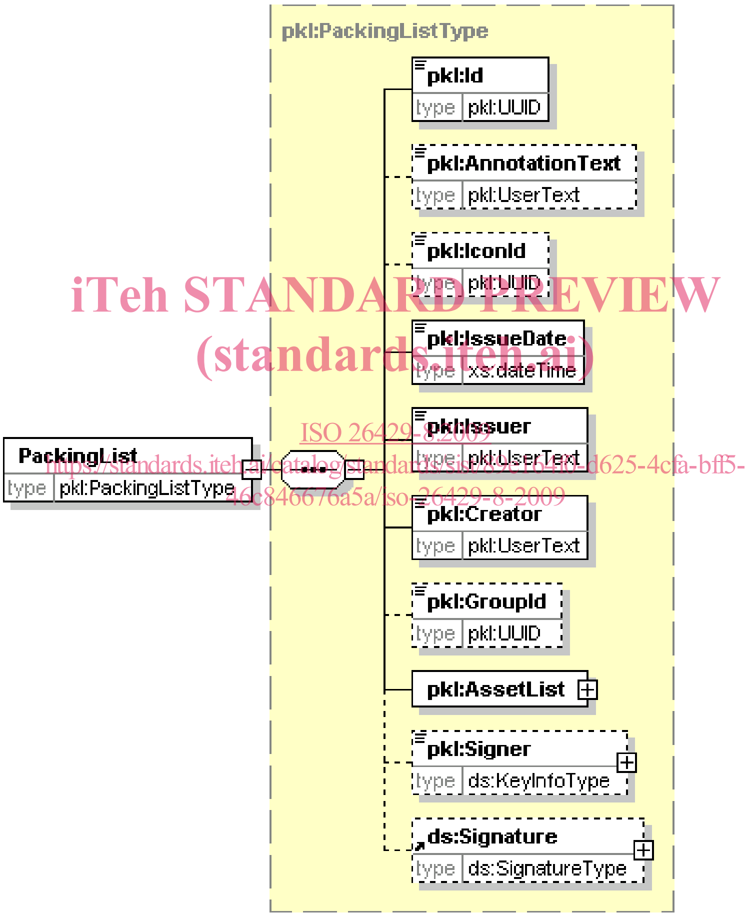

Figure 3 – Packing List structure. Dotted lines denote an optional element.

5.1 Id

The `Id` element uniquely identifies the packing list for asset management purposes. Each unique Packing List shall have a distinct Id. This will allow easy differentiation between Packing Lists. The `Id` shall be encoded as a urn:UUID [RFC 4122].

5.2 AnnotationText [optional]

The `AnnotationText` element shall be a free-form, human-readable annotation describing the distribution package. It is meant strictly as a displayed guidance for the user. The optional `language` attribute is an `xs:language` language code and indicates the language of the content of the element. If the `language` attribute is not present, the default value `en` shall be used.

5.3 IconId [optional]

The `IconId` element uniquely identifies an external image resource containing a picture icon illustrating the Packing List. The icon may be rendered, for instance, from a frame of the underlying content. The `IconId` parameter shall be encoded as a urn:UUID [RFC 4122]. The mapping of UUID values to actual image resources is beyond the scope of this document.

5.4 IssueDate

The `IssueDate` element indicates the time and date at which the Packing List was issued. The `IssueDate` shall be encoded as an `xs:dateTime` value.

5.5 Issuer

The `Issuer` element shall be a free-form, human-readable annotation describing the person or company that created the Packing List. It is meant strictly as a displayed guidance for the user. The optional `language` attribute is an `xs:language` language code and indicates the language of the content of the element. If the `language` attribute is not present, the default value `en` shall be used.

5.6 Creator

The `Creator` element shall be a free-form, human-readable annotation describing the person, facility or system (hardware/software) that created the Packing List. It is meant strictly as a displayed guidance for the user. The optional language attribute is an `xs:language` language code and indicates the language of the content of the element. If the `language` attribute is not present, the default value `en` shall be used.

5.7 GroupId [optional]

The `GroupId` element is used to create associations between packages. When present, the element shall contain a urn:UUID value [RFC 4122]. The presence of the element shall indicate to a receiver that the package may be associated for asset management purposes with any other package containing the same `GroupId` value. The exact meaning of the association is beyond the scope of this document, but in general a packing list with no `GroupId` element should contain a complete set of assets (i.e., there are no unresolved references between assets). Two or more packing lists with matching GroupId elements should contain assets that are related (e.g., referentially).