SMPTE STANDARD

Additional Composition Metadata and Guidelines

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Foreword

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SMPTE Engineering Documents are drafted in accordance with the rules given in its Standards Operations Manual.

SMPTE ST 429-16 was prepared by Technology Committee 21DC.

Intellectual Property

At the time of publication no notice had been received by SMPTE claiming patent rights essential to the implementation of this Engineering Document. However, attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. SMPTE shall not be held responsible for identifying any or all such patent rights.

Introduction

This section is entirely informative and does not form an integral part of this Engineering Document.

A number of metadata items not specified in SMPTE ST 429-7 have seen widespread use in D-Cinema. This specification defines a new Asset element (the CompositionMetadataAsset element) to carry additional metadata items in the Composition Playlist while retaining compatibility with deployed equipment.

This specification also provides guidelines on the consistent use of composition metadata to facilitate composition ingest, scheduling and diagnostics.

1 Scope

This specification defines additional D-Cinema composition metadata, and provides guidelines on the use of D-Cinema composition metadata for composition ingest, scheduling and diagnostic.

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.

A conformant implementation according to this document is one that includes all mandatory provisions ("shall") and, if implemented, all recommended provisions ("should") as described. A conformant implementation need not implement optional provisions ("may") and need not implement them as described.

Unless otherwise specified, the order of precedence of the types of normative information in this document shall be as follows: Normative prose shall be the authoritative definition; Tables shall be next; followed by formal languages; then figures; and then any other language forms.

3 Normative References

Note: All references in this document to other SMPTE documents use the current numbering style (e.g. SMPTE ST 429-7:2006) although, during a transitional phase, the document as published (printed or PDF) may bear an older designation (such as SMPTE 429-7-2006). Documents with the same root number (e.g. 429-7) and publication year (e.g. 2006) are functionally identical.

The following standards contain provisions that, 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.

SMPTE ST 428-12:2013, D-Cinema Distribution Master — Common Audio Channels and Soundfield Groups

SMPTE ST 429-7:2006, D-Cinema Packaging — Composition Playlist

SMPTE ST 429-10:2008, D-Cinema Packaging — Stereoscopic Picture Track File

SMPTE ST 429-12:2008, D-Cinema Packaging —Caption and Closed Subtitle

Internet Engineering Task Force (IETF) (2008, January). RFC 5234, Augmented BNF for Syntax Specifications: ABNF

Internet Engineering Task Force (IETF) (2009, September). RFC 5646, Tags for Identifying Languages

World Wide Web Consortium (W3C) (16 November 1999). XML Path Language (XPath) Version 1.0

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

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

4 Additional Composition Metadata

4.1 XML Schema and Namespace

XML elements defined by this specification shall conform to the XML schema definitions (see W3C XML Schema Part 1: Structures) found in this specification.

In the event of a conflict between schema definitions and the prose, the prose shall take precedence.

The XML schema root element shall be as defined in Table 1.

Table 1 – XML Schema root element definition

```
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
  targetNamespace="http://www.smpte-ra.org/schemas/429-16/2014/CPL-Metadata"
  xmlns:cpl="http://www.smpte-ra.org/schemas/429-7/2006/CPL"
  xmlns:meta="http://www.smpte-ra.org/schemas/429-16/2014/CPL-Metadata"
                    attributeFormDefault="unqualified"
  elementFormDefault="qualified">
  <xs:import namespace="http://www.smpte-ra.org/schemas/429-7/2006/CPL"/>
<!-- schema definitions found in this document -->
</xs:schema>
```

In order to avoid duplication between text and schema, the cardinality and default values of elements and attributes are specified in the schema only.

4.2 Versioning

The target namespace specified in Section 4.1, i.e. the value of the `targetNamespace` attribute of the `schema` element, shall only be used by `CompositionMetadataAsset` instances that conform to this specification as expressed by the combination of its prose and schema definitions.

Instances that do not conform to this specification shall use a different namespace and no two distinct schemas shall have the same target namespace.

4.3 Extensions

The `CompositionMetadataAsset` may be extended by adding:

- Elements using the `xs:any` extension point at the top level of the `CompositionMetadataAsset` element. This extension mechanism shall be reserved for future revisions of this specification, and preserve compatibility with earlier version of the specification that use the same target namespace.

- `ExtensionMetadata` elements to the `ExtensionMetadataList` element (see Section 4.4.2.15). This mechanism can be used for any extension, including vendor-specific, experimental, etc.

4.4 Structures

4.4.1 CompositionMetadataAsset

The `CompositionMetadataAsset` element adds, to the `CompositionPlaylist` element specified in SMPTE ST 429-7, metadata applicable to the composition as a whole.

A `CompositionPlaylist` element shall contain exactly zero or one `CompositionMetadataAsset` element (see Table 2) in the first `Reel` element of the `ReelList` element. Other `CompositionMetadataAsset` elements shall be ignored.

Table 2 – CompositionMetadataAsset schema definition

```
<xs:element name="CompositionMetadataAsset"
                    type="meta:CompositionMetadataAssetType"/>
```

The value of the `IntrinsicDuration` element of the `CompositionMetadataAsset` instance shall be equal to the `Duration` element of the `MainPicture` or `MainStereoscopicPicture` element from the same `Reel` element.

The `Duration` and `EntryPoint` elements shall not be present.

The value of the `EditRate` element of the `CompositionMetadataAsset` instance shall be set to the value of the `EditRate` of the picture essence referenced by `MainPicture` or `MainStereoscopicPicture` elements.

4.4.2 CompositionMetadataAssetType

4.4.2.1 Definition

Table 3 – CompositionMetadataAssetType schema definition

```
<xs:complexType name="CompositionMetadataAssetType">
  <xs:complexContent>
    <xs:extension base="cpl:GenericAssetType">
      <xs:sequence>

        <xs:element name="FullContentTitleText" type="cpl:UserText"/>

        <xs:element name="ReleaseTerritory" minOccurs="0">
          <xs:complexType>
            <xs:simpleContent>
              <xs:extension base="xs:string">
                <xs:attribute
                  default="http://www.smpte-ra.org/schemas/429-16/2014/CPL-
                      Metadata#scope/release-territory/UNM49"
                  name="scope" type="xs:anyURI"/>
              </xs:extension>
            </xs:simpleContent>
          </xs:complexType>
        </xs:element>
```

```
        <xs:element name="VersionNumber" default="1" minOccurs="0">
          <xs:complexType>
            <xs:simpleContent>
              <xs:extension base="xs:nonNegativeInteger">
                 <xs:attribute default="final" name="status" type="meta:StatusEnum"/>
              </xs:extension>
            </xs:simpleContent>
          </xs:complexType>
        </xs:element>

        <xs:element name="Chain" type="xs:string" minOccurs="0"/>

        <xs:element name="Distributor" type="xs:string" minOccurs="0"/>

        <xs:element name="Facility" type="xs:string" minOccurs="0"/>

        <xs:element minOccurs="0" name="AlternateContentVersionList">
          <xs:complexType>
            <xs:sequence>
              <xs:element maxOccurs="unbounded" minOccurs="1"
                name="ContentVersion" type="cpl:ContentVersionType"/>
            </xs:sequence>
          </xs:complexType>
        </xs:element>

        <xs:element minOccurs="0" name="Luminance">
          <xs:complexType>
            <xs:simpleContent>
              <xs:extension base="meta:PositiveDecimal">
                <xs:attribute name="units" type="meta:LuminanceUnitEnum"
                  use="required"/>
              </xs:extension>
            </xs:simpleContent>
          </xs:complexType>
        </xs:element>

        <xs:element name="MainSoundConfiguration" minOccurs="1" type="xs:string"/>

        <xs:element name="MainSoundSampleRate" minOccurs="1" type="cpl:Rational"/>

        <xs:element name="MainPictureStoredArea" minOccurs="1">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="Width" type="xs:positiveInteger"/>
              <xs:element name="Height" type="xs:positiveInteger"/>
            </xs:sequence>
          </xs:complexType>
        </xs:element>

        <xs:element name="MainPictureActiveArea" minOccurs="1">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="Width" type="xs:positiveInteger"/>
```

```
            <xs:element name="Height" type="xs:positiveInteger"/>
          </xs:sequence>
        </xs:complexType>
      </xs:element>

      <xs:element minOccurs="0" name="MainSubtitleLanguageList">
        <xs:simpleType>
          <xs:restriction base="meta:LanguageListType">
            <xs:minLength value="1"/>
          </xs:restriction>
        </xs:simpleType>
      </xs:element>

      <xs:element minOccurs="0" name="ExtensionMetadataList">
        <xs:complexType>
          <xs:sequence>
            <xs:element name="ExtensionMetadata" maxOccurs="unbounded"
              minOccurs="0" type="meta:ExtensionMetadataType"> </xs:element>
          </xs:sequence>
        </xs:complexType>
      </xs:element>

      <xs:any maxOccurs="unbounded" minOccurs="0" namespace="##other"
        processContents="lax"/>

    </xs:sequence>
  </xs:extension>
 </xs:complexContent>
</xs:complexType>
```

4.4.2.2 FullContentTitleText

The `FullContentTitleText` element shall contain the full human-readable title for the composition, appropriate for the release territory and without technical or versioning information. It is strictly meant as a display hint to the user. The optional `language` attribute shall indicate the language of the content of the element.

Note: The `ContentTitleText` of the `CompositionPlaylist` element has been used in practice to carry technical and version information in addition to the title proper of the Composition, impairing the readability of the title and limiting its length. It is expected that this practice will continue. The `FullContentTitleText` element therefore allows the full, proper title of the Composition to be carried.

Note: The `ContentVersion/LabelText` element can be used to carry the original, non-translated, title of the Composition.

4.4.2.3 ReleaseTerritory

The `ReleaseTerritory` element shall contain a human-readable representation of the intended release territory for the Composition Playlist. A `scope` attribute shall determine the permissible values of the element.

When the default `scope` value is used or no `scope` value is present, the value of the `ReleaseTerritory` shall be a valid region subtag found in the Language Subtag Registry specified in IETF RFC 5646. For generic international versions, the code 001 shall be used.

Note: As of the publication date of this specification, the set of region subtags in the Language Subtag Registry consists of a subset of the geographical regions specified in ISO 3166-1 and U.N. M.49. The Language Subtag Registry is maintained by IANA at http://www.iana.org/assignments/language-subtag-registry and is the definitive list of region subtags.

4.4.2.4 VersionNumber

The `VersionNumber` element shall indicate the version number of the Composition.

The `status` attribute shall indicate the status of the Composition, as specified in Table 4. It is used to prevent a non-final version from accidently being distributed to theatres as the final release.

Table 4 – StatusEnum values

`final`	Final composition, including final sound, picture and accessibility features.
`temp`	Temporary composition, e.g. preview or rough-cut version. Picture and/or sound are temporary and unfinished.
`pre`	Pre-release Composition. Picture and sound are final, but not all features of the final version such as accessibility features are present.

Table 5 – StatusEnum schema definition

```
<xs:simpleType name="StatusEnum">
    <xs:restriction base="xs:token">
      <xs:enumeration value="final"/>
      <xs:enumeration value="temp"/>
      <xs:enumeration value="pre"/>
    </xs:restriction>
  </xs:simpleType>
```

4.4.2.5 Chain

The `Chain` shall contain a human-readable name of the specific targeted use for which the Composition Playlist is intended, if any. Examples of targeted uses includes a specific theatre chain, trade show, festival screening, etc…

4.4.2.6 Distributor

The `Distributor` shall contain a human-readable representation of the distributor, e.g. studio, for the Composition Playlist in the intended release territory.

4.4.2.7 Facility

The `Facility` element shall contain a human-readable representation of the organization that created the Composition Playlist.

4.4.2.8 AlternateContentVersionList

`AlternateContentVersionList` allows additional content identifiers to be associated with the Composition Playlist, in addition to the identifier carried in the `ContentVersion` element of the `CompositionPlaylist` element.

`ContentVersion` elements within the `AlternateContentVersionList` element shall be synonyms of the /`CompositionPlaylist`/`ContentVersion` element.

No two ContentVersion elements, including both Composition Playlist and AlternateContentVersionList children elements, shall have identical Id elements.

4.4.2.9 Luminance

The Luminance element shall indicate the screen luminance at which the content was authored. The units attribute type shall indicate the units of measure, as specified in Table 6.

Table 6 – LuminanceUnitEnum values

Value	Description
candela-per-square-metre	SI unit of luminance
foot-lambert	3.426 candela per square metre

Table 7 – LuminanceUnitEnum schema definition

```
<xs:simpleType name="LuminanceUnitEnum">
  <xs:restriction base="xs:token">
    <xs:enumeration value="foot-lambert"/>
    <xs:enumeration value="candela-per-square-metre"/>
  </xs:restriction>
</xs:simpleType>
```

Table 8 – PositiveDecimal schema definition

```
<xs:simpleType name="PositiveDecimal">
  <xs:restriction base="xs:decimal">
    <xs:minExclusive value="0"/>
  </xs:restriction>
</xs:simpleType>
```

4.4.2.10 MainSoundConfiguration

The MainSoundConfiguration element shall contain a human-readable representation of the soundfield and channels present in the Track File referenced by MainSound .

The value of the element should follow the MAINSOUND rule, expressed using ABNF as specified in IETF5234:

```
MAINSOUND = SOUNDFIELD ["/" CHANNEL *("," CHANNEL)]
SOUNDFIELD = TOKEN
CHANNEL = "-" / TOKEN
TOKEN = 1*6(ALPHA / DIGIT)
```

A CHANNEL value of "-" shall indicate a channel not intended for reproduction at playback, e.g. silence.

The SOUNDFIELD shall indicate the primary soundfield carried in the MainSound Track File. If the soundfield is defined in SMPTE ST 428-12, SOUNDFIELD should be equal to the symbol specified there.

Each CHANNEL value shall correspond to one audio channel, in the order it appears in MainSound. If the audio channel is defined in SMPTE ST 428-12, CHANNEL should be equal to the symbol specified there.

Note: The syntax of TOKEN is intended to be consistent that of the symbols defined in SMPTE ST 428-12.

4.4.2.11 MainSoundSampleRate

The `MainSoundSampleRate` element shall be equal to the audio sample rate of the Track File referenced by `MainSound`. It shall be expressed as a rational number, in units of audio samples per second.

4.4.2.12 MainPictureStoredArea

The `MainPictureStoredArea` is used to configure the projector.

The `Height` and `Width` elements of the `MainPictureStoredArea` element shall be the height and width in pixels of the picture essence container, also referred to as stored rectangle, referenced by the `MainPicture` or `MainStereoscopicPicture` element.

Note: `ScreenAspectRatio` in SMPTE ST 429-7 stores the ratio of width to height dimensions, and not the absolute value of the dimensions themselves.

4.4.2.13 MainPictureActiveArea

The `MainPictureActiveArea` is used to configure masking and the projector.

The `Height` and `Width` elements of the `MainPictureActiveArea` element shall be the height and width in pixels of the active area of the picture essence, referenced by the `MainPicture` or `MainStereoscopicPicture` element.

The active area of the picture essence shall be the rectangular region which is intended to be visible to the audience, i.e. not masked. It shall be centered within the picture essence container. Its height and width in pixels shall be multiples of two, and no larger than the corresponding dimensions of the picture essence container.

Table 9 illustrates the values `MainPictureStoredArea` and `MainPictureActiveArea` for a flat picture essence container with a pillar-boxed 1.33 active area.

Table 9 – Active Area Example

```
<MainPictureStoredArea>
  <Width>1998</Width>
  <Height>1080</Height>
</MainPictureStoredArea>
<MainPictureActiveArea>
  <Width>1440</Width>
  <Height>1080</Height>
</MainPictureActiveArea>
```

4.4.2.14 MainSubtitleLanguageList

There shall be a one-to-one correspondence between `MainSubtitleLanguageList` elements and languages displayed by the `MainSubtitle` asset.

The first item of the `MainSubtitleLanguageList` element shall correspond to the primary language, if any.

The value of the `Language` element of the `MainSubtitle` element shall be equal the first item of the `MainSubtitleLanguageList` element.

Table 10 – LanguageListType schema definition

```
 <xs:simpleType name="LanguageListType">
   <xs:restriction>
```

```
    <xs:simpleType>
      <xs:list itemType="xs:language"/>
    </xs:simpleType>
  </xs:restriction>
</xs:simpleType>
```

4.4.2.15 ExtensionMetadataList

An `ExtensionMetadata` element consists of human-readable name (the `Name` element) and properties (the `PropertyList` element), and opaque extension elements that use the XML schema `xs:any` mechanism.

A `ExtensionMetadata` element should, whenever possible, include human-readable properties. The opaque extension elements are intended for information that is not human-readable or benefits from schema validation. Information in opaque extension elements should take precedence over human-readable properties. The `scope` attribute of the `ExtensionMetadata` element shall be globally unique and shall identify the nature of the `ExtensionMetadata` element.

An implementation shall ignore any `ExtensionMetadata` elements with a `scope` attribute value it does not recognize.

No two `ExtensionMetadata` elements in a given `ExtensionMetadataList` element shall have the same `scope` attribute value.

4.4.3 ExtensionMetadataType

Table 11 – ExtensionMetadataType schema definition

```
<xs:complexType name="ExtensionMetadataType">
  <xs:sequence>
    <xs:element name="Name" type="xs:string"/>
    <xs:element minOccurs="0" name="PropertyList">
      <xs:complexType>
        <xs:sequence>
          <xs:element name="Property" maxOccurs="unbounded">
            <xs:complexType>
              <xs:sequence>
                <xs:element name="Name" type="xs:string"/>
                <xs:element name="Value" type="xs:string"/>
              </xs:sequence>
            </xs:complexType>
          </xs:element>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
    <xs:any namespace="##other" maxOccurs="unbounded" minOccurs="0"
                    processContents="lax"/>
  </xs:sequence>
  <xs:attribute name="scope" type="xs:anyURI" use="required"/>
</xs:complexType>
```

4.4.4 Name

The `Name` element shall be a human-readable mnemonic that identifies the nature of the `ExtensionMedataType` instance.

4.4.5 PropertyList

The `PropertyList` element contains a list of `Property` elements, each corresponding to a particular property of the extension metadata.

No two `Property` elements within a given `PropertyList` element shall have the same `Name` value.

4.4.5.1 Name

The `Name` element shall be human-readable and identify the property.

4.4.5.2 Value

The `Value` element shall be human-readable and shall be the value of the property.

5 Composition Metadata Guidelines

5.1 General

The information listed in Table 12, as expressed using the XPath Language, should be made available to users for composition ingest, scheduling and diagnostic. Missing information should be indicated using text appropriate for the locale, e.g. "n/a" in an English locale.

Table 12 – Selected Composition Information

Information	Element(s)	Notes
Structure Version	`namespace-uri(/CompositionPlaylist)`	Indicates the version of the Composition Playlist structure.
Title	`//Reel[1]//CompositionMetadataAsset/FullContentTitleText`	`/CompositionPlaylist/ContentTitleText` does not necessarily contain the full title of the Composition. See Section 4.4.2.2.
2D/3D	`//Reel//MainPicture` `//Reel//MainStereoscopicPicture`	A 3D composition contains `MainStereoscopicPicture` elements, and a 2D composition `MainPicture` elements.
Content Kind	`/CompositionPlaylist/ContentKind`	
MainSound Language	`//Reel//MainSound[1]/Language`	

MainSubtitle Languages	`//Reel[1]//CompositionMetadataAsset/MainSubtitleLanguageList`
	and
	`//Reel//MainSubtitle/Language`
		See Section 4.4.2.14.

ClosedCaption	`//Reel//ClosedCaption`	The presence of `ClosedCaption` indicates the existence of closed caption content
ClosedCaption Languages	`//Reel//ClosedCaption/Language`	There can be multiple closed-caption languages.
ClosedSubtitle	`//Reel//ClosedSubtitle`	The presence of `ClosedSubtitle` indicates the existence of closed subtitle content
ClosedSubtitle Languages	`//Reel//ClosedSubtitle/Language`	There can be multiple closed-caption languages.
MainCaption	`//AssetList/MainCaption`	The presence of `MainCaption` indicates the existence open caption content
MainCaption Language	`//Reel//MainCaption[1]/Language`	
Maturity Rating	`/CompositionPlaylist/RatingList/Rating`	All `Rating` elements should be made available
IssueDate	`/CompositionPlaylist/IssueDate`	

Main Picture or MainStereoscopicPicture Frame Rate	`//Reel//MainPicture[1]/FrameRate`
	or
	`//Reel//MainStereoscopicPicture[1]/FrameRate`	

FFMC	`//Reel//MainMarkers`	The `Marker` with a Label value of FFMC (see Section 7.3.1 in SMPTE ST 429-7) can be used

		to trigger house lights during the theatrical presentation
Release Territory	`//Reel[1]//CompositionMetadataAsset/ReleaseTerritory`	
Audio channel configuration	`//Reel[1]//CompositionMetadataAsset/MainSoundConfiguration`	
Luminance	`//Reel[1]//CompositionMetadataAsset/Luminance`	
Distributor	`//Reel[1]//CompositionMetadataAsset/Distributor`	
Facility	`//Reel[1]//CompositionMetadataAsset/Facility`	
Stored area	`//Reel[1]//CompositionMetadataAsset/MainPictureStoredArea`	
Active area	`//Reel[1]//CompositionMetadataAsset/MainPictureActiveArea`	A ratio of the Width to the Height may be made available
Version Number	`//Reel[1]//CompositionMetadataAsset/VersionNumber`	
Extension Metadata	`//Reel[1]//CompositionMetadataAsset/ExtensionMetadataList/ExtensionMetadata`	The `Name` as well as the list of `Property/Name` and `Property/Value` pairs of all `ExtensionMetadata` elements should be made available.

5.2 Language Tags

All instances of type `xs:language` in a Composition Playlist instance shall be language tags conforming to IETF RFC 5646.

Language tags should be as specific as possible, e.g. `"fr-ca"` is preferable to `"fr"`.

The language tags listed in Annex B should be used whenever possible. The obsolete codes listed in Annex B shall not be used.

Note: As specified in IETF RFC 5646, the Internet Assigned Numbers Authority (IANA) maintains the registry of valid subtags at http://www.iana.org/assignments/language-subtag-registry .

Note: Matching desired playback language with language tags is not trivial, IETF RFC 4647 specifies practices for such matching.

5.3 RatingList

The `RatingList` should contain at least one `Rating` element appropriate for the release territory.

Common Metadata Ratings (http://www.movielabs.com/md/ratings) defines ratings that are compatible with SMPTE ST 429-7.

The following should be used to signal that the Composition is not yet rated:

- **For a given agency.** For a given `Rating` element, a `Label` value equal to the empty string (`""`) shall indicate that the Composition is not yet rated by the agency identified by the value of the `Agency` element.
- **Globally.** The presence, in `RatingList` of a single `Rating` element with both `Agency` and `Label` element equal to the empty string (`""`) shall indicate that the Composition is not yet rated.

5.4 ContentKind

This specification defines additional `ContentKind` values.

When the value of the `scope` attribute of the `ContentKind` element is `http://www.smpte-ra.org/schemas/429-16/2014/CPL-Metadata#scope/content-kind`, the value of the `ContentKind` element shall be one of the values of Table 13.

Table 13 – Additional ContentKind values.

Kind	Description
clip	An excerpt from a longer piece of content that may be displayed on its own or with other clips
promo	A piece of promotional publicity or advertising
stereocard	"Please Put Your 3D Glasses On Now" card

5.5 Markers

In addition to the recommendations of Table 4 in SMPTE ST 429-7, the FFMC marker should be present whenever applicable to the underlying content.

5.6 Distributor Composition Identifiers

Composition identifiers specific to one or more distributors, e.g. catalog number, SKU or product code, may be carried in the `Id` element of either the `/CompositionPlaylist/ContentVersion` or `//Reel[1]//CompositionMetadataAsset/ContentVersion` elements.

Annex A Bibliography (Informative)

International Organization for Standardization, ISO 3166-1:2006. Codes for the representation of names of countries and their subdivisions — Part 1: Country codes, November 2006.

Statistics Division, United Nations. Standard Country or Area Codes for Statistical Use, Revision 4 (United Nations publication, Sales No. 98.XVII.9, June 1999.

Digital Cinema Naming Convention. URL: http://www.digitalcinemanamingconvention.com

IANA Language Subtag Registry. http://www.iana.org/assignments/languagesubtag-registry

IETF RFC 4647, Matching of Language Tags, September 2006

Common Metadata Ratings. http://www.movielabs.com/md/ratings/

Annex B Common Language Tags and Obsolete Codes (Normative)

Table B.1 lists preferred RFC 5646 language tags for languages commonly encountered in D-Cinema applications. Some language codes encountered in D-Cinema practice, e.g. in the D-Cinema Naming Convention, do not conform to RFC 5646, and shall not be used when RFC 5646 conformance is required. Table B.1 provides a mapping from these codes to a proper RFC 5646 language tag.

Note: RFC 5646 language tags are case-insensitive.

Table B.1 – Preferred Language Tags and Obsolete Codes

Language	*RFC 5646 Language Tag*	*Notes*	*Obsolete Code*
Albanian	sq		
Arabic	ar		
Arabic - Egypt	arz		
Arabic - UAE	ar-AE		
Arabic - Lebanon	ar-LB		
Bosnian	bs		
Bulgarian	bg		
Catalan	ca		
Chinese - Cantonese	yue		
Chinese-Hong Kong Cantonese	yue-hk	Spoken only	
Chinese-Hong Kong Traditional	zh-Hant-hk	Written only	
Chinese - Malaysia Simple	zh-Hans	Written only. Release territory can be indicated using the ReleaseTerritory element.	
Chinese - Mandarin PRC	cmn	Spoken only	CMN
Chinese - Mandarin Simplified	cmn-Hans	Written only	QMS
Chinese - Mandarin Traditional	cmn-Hant	Written only	QMT
Chinese - Singapore Simple	zh-Hans	Written only. Release territory can be indicated using the ReleaseTerritory element.	
Chinese - Taiwanese	nan	Spoken only	NAN
Chinese - Taiwanese Mandarin	cmn-TW	Spoken only	QTM
Chinese - Taiwan Simple	zh-Hans	Written only. Release territory can be indicated using the ReleaseTerritory element.	
Croatian	hr		
Czech	cs		

Danish	da	
Dutch	nl	
English	en	
English - UK	en-gb	
Estonian	et	
Euskara	eu	
Finnish	fi	
Flemish	vls	
French	fr	
French - Canadian	fr-ca	QFC
German	de	
German - Swiss	gsw	
Greek	el	
Hebrew	he	
Hindi	hi	
Hungarian	hu	
Icelandic	is	
Indonesian Bahasa	id	IND
Italian	it	
Japanese	ja	
Kazakh	kk	
Korean	ko	
Latvian	lv	
Lithuanian	lt	
Malay Bahasa	zlm	MSA
Mongolian	mn	
Norwegian	no	
Polish	pl	
Portuguese - Brazilian	pr-BR	QBP
Portuguese - European	pt	
Romanian	ro	
Russian	ru	
Serbian	sr	
Slovak	sk	
Slovenian	sl	

Spanish - Argentinian	es-AR	QSA
Spanish - Castilian	es	
Spanish - Latin American	es-419	LAS
Spanish - Mexican	es-MX	QSM
Swedish	sv	
Tamil	ta	
Telugu	te	
Thai	th	
Turkish	tr	
Ukrainian	uk	
Vietnamese	vi	

Annex C Consolidated Schema (Informative)

This document is accompanied by a file named st0429-16a-2014.xsd that contains an informative schema instance combining all schema definitions specified herein.

Annex D Example Instance (Informative)

The following is a sample `CompositionMetadataAsset` instance conforming to this specification. This sample is neither intended to capture current or future practice, nor exercise all normative language contained in this specification.

For illustration, the sample instance contains two extension metadata.

```
<meta:CompositionMetadataAsset xmlns:cpl="http://www.smpte-ra.org/schemas/429-
                    7/2006/CPL"
  xmlns="http://www.smpte-ra.org/schemas/429-16/2014/CPL-Metadata"
  xmlns:meta="http://www.smpte-ra.org/schemas/429-16/2014/CPL-Metadata">
  <cpl:Id>urn:uuid:550e8400-e29b-41d4-a716-446655440000</cpl:Id>
  <cpl:EditRate>24 1</cpl:EditRate>
  <cpl:IntrinsicDuration>24000</cpl:IntrinsicDuration>
  <FullContentTitleText>Hello</FullContentTitleText>
  <ReleaseTerritory>001</ReleaseTerritory>
    <VersionNumber>1</VersionNumber>
    <Chain>Bijou</Chain>
  <Distributor>Your Distributor</Distributor>
  <Facility>Super Digi Post Facility</Facility>
    <AlternateContentVersionList>
      <ContentVersion>
        <cpl:Id>urn:isan:0123-1230-3210-2310-1</cpl:Id>
        <cpl:LabelText>English (Theatrical)</cpl:LabelText>
      </ContentVersion>
    </AlternateContentVersionList>
  <Luminance units="foot-lambert">14</Luminance>
  <MainSoundConfiguration>51/R,L,C,LFE,Ls,Rs,HI,VIN</MainSoundConfiguration>
  <MainSoundSampleRate>48000 1</MainSoundSampleRate>
  <MainPictureStoredArea><Width>2048</Width><Height>1080</Height></MainPictureStoredA
                    rea>
  <MainPictureActiveArea><Width>2048</Width><Height>856</Height></MainPictureActiveAr
                    ea>
   <MainSubtitleLanguageList>fr-ca es-419</MainSubtitleLanguageList>
  <ExtensionMetadataList>
    <ExtensionMetadata scope="http://myvendor.noname/spec/2012">
      <Name>My Vendor</Name>
      <PropertyList>
        <Property>
          <Name>Version</Name>
          <Value>1.0</Value>
        </Property>
      </PropertyList>
    </ExtensionMetadata>
  </ExtensionMetadataList>
</meta:CompositionMetadataAsset>
```