

SMPTE STANDARD

D-Cinema Operations —
Auxiliary Resource
Presentation List



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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 ST 430-11 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 Standard. 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.

1 Scope

This standard defines a document for specifying the location of resources on a digital cinema server and the corresponding position at which they should be presented during the play out of a single composition or a show comprised of multiple compositions.

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

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

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).

Internet Engineering Task Force (IETF) (November 1996) RFC1738 - Uniform Resource Locators (URL).

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

Internet Engineering Task Force (IETF) (2005, July). RFC 4122 – A Universally Unique Identifier (UUID) URN Namespace.7.

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

4 Glossary

The following paragraphs define the acronyms used in this document.

ACS: Auxiliary Content Server

CPL: Composition Playlist

DCS: Digital Cinema Server

HTTP: Hypertext Transfer Protocol

RPL: Auxiliary Resource Presentation List

5 Overview (Informative)

This standard defines a schema for the interchange of the list of auxiliary resources available to the playout of one or more compositions. The Auxiliary Resource Presentation List File identifies the auxiliary content resources needed for the current show or composition and their relative position on the timeline.

5.1 Usage

The RPL provides a list of auxiliary resources available in the next composition or sequence of compositions to be played. It is presented by a Digital Cinema Server (DCS) to an Auxiliary Content Server (ACS) at some time before playout begins. An ACS will obtain timeline updates from the DCS and determine which resources should be presented.

5.2 Composition Playlist Mapping

Each ReelResources element within the RPL correlates to a single reel within a CPL. Each ReelResource element corresponds to a single Reel Asset within a CPL. While any reel asset could be mapped into the RPL, the intention is to map lower bit rate resources not “rendered” by the DCS, e.g. subtitles, captions, and special effects. Resources are intended to be pre-fetched before start of playout to allow for synchronous playout with the first frame of content.

5.3 Show Playlist Mapping

Multiple compositions can be played in sequence to create a “show” timeline. To ensure continuity across CPL boundaries, an RPL can be created to represent the entire show timeline. Multiple ReelResources elements, representing the reels for multiple CPLs, can be present in a single RPL. In this case, the TimelineOffset attribute of the ReelResources element identifies the show-relative offset of the referenced resources.