

SMPTE STANDARD



Essence Element Key Register Structure

Page 1 of 12

Table of Contents		Page
1	Scope	3
2	Conformance Notation	3
3	Normative References	3
4	Terms and Definitions	4
5	SMPTE Essence Element Key structure	6
5.1	Register overview	6
5.2	Individual classes of essence element key	7
5.3	Register Structure and Format	8
6	Essence element key register maintenance	11

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 its Standards Operations Manual. This SMPTE Engineering Document was prepared by Technology Committee 30MR.

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.

The SMPTE metadata standards use a layered approach to convey information to describe and encode metadata and essence. A layered approach is used so that the user can select the applicable standard(s) for the level of implementation needed.

The SMPTE standards for metadata include:

- Universal Labels for unique identification of digital data (SMPTE ST 298);
- Key-Length-Value (KLV) data encoding protocol for metadata and essence (SMPTE ST 336);
- Multiple register structure documents which specify how metadata items of various kinds must be defined (SMPTE ST 400 Metadata Labels, SMPTE ST 2003 Metadata Types, SMPTE ST 335 Metadata Elements, SMPTE ST 395 Metadata Groups and SMPTE ST 2088 Essence Element Keys);
- Published registers of approved metadata definitions maintained according to the procedures defined in SMPTE AG 18.

1 Scope

This standard defines the structure of a register of essence element keys as used by essence container specifications coded according to SMPTE ST 336, e.g. SMPTE ST 379-1 and ST 379-2 and related Essence Mapping Documents.

The standard normatively defines universal identifiers, essence element names, definitions, and standardized symbols, as well as other normative and informative fields.

The associated essence element key register includes all entries which have been approved according to the specific procedures defined in SMPTE AG 18.

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; then formal languages; then figures; and then any other language forms.

3 Normative References

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

SMPTE, ST 298:2009, "Universal Labels for Unique Identification of Digital Data"

SMPTE, ST 336:2007, "Data Encoding Protocol Using Key-Length-Value"

SMPTE, ST 2029:2009, "Uniform Resource Names for SMPTE Resources"

World Wide Web Consortium (W3C), "Namespaces in XML 1.0 (Second Edition)", 16 August 2006,
<https://www.w3.org/TR/REC-xml-names/>

4 Terms and Definitions

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

4.1 Attribute

characteristic of an essence element key

4.2 Class

broad category that forms the first level of hierarchy for all registered essence element keys

4.3 Context

circumstance, purpose, and perspective under which something is defined or used

4.4 Designator

sub-identifier within a universal label

4.5 Identifier

sequence of numbers or characters, capable of uniquely identifying that with which it is associated, within a specified context

4.6 Item

object in a register that instantiates a defined set of attributes.

Note: An item in the essence element key register is a description of an essence element key or class/subclass

4.7 Item designator

last 8 bytes of the universal label, which uniquely identify a particular item within the context of the UL designator

4.8 Essence element key register

register, as defined by this standard, of approved essence element keys and the attributes of the essence elements that they identify