SMPTE RECOMMENDED PRACTICE

Open Binding of Content Identifiers (OBID) – Conformance Test Materials

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Approved March 21, 2018

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 24TB.

Intellectual Property

SMPTE draws attention to the fact that it is claimed that compliance with this Standard may involve the use of one or more patents or other intellectual property rights (collectively, "IPR"). The Society takes no position concerning the evidence, validity, or scope of this IPR.

Each holder of claimed IPR has assured the Society that it is willing to License all IPR it owns, and any third party IPR it has the right to sublicense, that is essential to the implementation of this Standard to those (Members and non-Members alike) desiring to implement this Standard under reasonable terms and conditions, demonstrably free of discrimination. Each holder of claimed IPR has filed a statement to such effect with SMPTE. Information may be obtained from the Director, Standards & Engineering at SMPTE Headquarters.

Attention is also drawn to the possibility that elements of this Standard may be subject to IPR other than those identified above. The Society shall not be responsible for identifying any or all such IPR.

Introduction

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

This document provides a means for implementers of SMPTE ST 2112-10 Open Binding of IDs to verify correct operation of their implementations via two non-prose elements:

1. SMPTE ST 2112-11a – Ad-ID watermarked audio sample
2. SMPTE ST 2112-11b – EIDR watermarked audio sample

Scope

This document provides conformance test materials to be used to validate implementations of SMPTE ST 2112-10 Open Binding of IDs.

1. 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 clause 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.

2. Normative References

The following documents, in whole or in part, as referenced in this document, contain specific provisions that are to be followed strictly in order to implement a provision of this Standard.

SMPTE ST 2112-10:2018 Open Binding of Content Identifiers

IEEE SI_10-2010 - American National Standard for Metric Practice

3. Terms and Definitions

With respect to definition of terms, abbreviations, and units, the practice of the Institute of Electrical and Electronics Engineers (IEEE) as outlined in the Institute’s Doc. SI 10 shall be used. Where an abbreviation is not covered by IEEE practice or industry practice differs from IEEE practice, the abbreviation in question will be described this document.

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

3.1 Ad-ID

industry standard identifier for advertising content

3.2 audio watermark

data that is embedded in an audio stream in such a way that it can be extracted by a watermark decoder

3.3 EIDR

Entertainment Industry Data Registry

Note to entry: Industry standard identifier for program content

3.4 embed

modify the audio signal by adding the audio watermark

3.5 symbol

representation of binary information in the audio watermark

3.6 marked audio

audio that has an audio watermark embedded in it

4. Sample Files

Two sample files are provided as non-prose elements along with this document.

4.1 Ad-ID Watermarking Sample

The Ad-ID audio watermark marked audio sample (2112-11a) is a WAV file, demonstrating the Ad-ID symbol sequence embedded in an audio sample, using the technique specified in ST2112-10, in clause 5.6.1 Ad-ID Watermarking.

4.2 EIDR Watermarking Sample

The EIDR audio watermark marked audio sample (2112-11b) is a WAV file, demonstrating the EIDR symbol sequence embedded in an audio sample, using the technique specified in ST 2112-10, in clause 5.6.2 EIDR Watermarking.