

D-Cinema Packaging —
Sound and Picture Track File



Table of Contents

1 Scope 3

2 Normative References 3

3 Overview 3

4 Pattern Constraints 4

 4.1 General 4

 4.2 Baseline Operational Pattern 4

 4.3 Additional Constraints 4

 4.4 Labeling 5

5 Essence Constraints 6

 5.1 Picture 6

 5.2 Sound 6

6 Header Metadata Constraints 6

 6.1 General 6

 6.2 Time Code 7

 6.3 Track File Identity 7

7 Descriptive Metadata Constraints 8

8 Other Constraints and Definitions 8

 8.1 File Names and Asset Identity 8

 8.2 Synchronization 8

9 MIME Type 8

Annex A Bibliography (Informative) 9

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 Standard 429-3 was prepared by Technology Committee DC28.

1 Scope

This standard specifies the common features of the format of sound and picture Tracks Files for distribution of D-Cinema content using the MXF file format. It defines data structures for interchange at the signal interfaces of networks or storage media, but does not define internal storage formats for compliant devices or mappings for particular essence encodings. This document is an Application Specification for D-Cinema applications. It is based on the SMPTE 390M OP-ATOM standard, but is further constrained to address the needs of distribution of D-Cinema content to exhibition sites.

2 Normative References

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.

SMPTE 330M-2004, Television — Unique Material Identifier (UMID)

SMPTE 377M-2004, Television — Material Exchange Format (MXF) — File Format Specification

SMPTE 379M-2004, Television — Material Exchange Format (MXF) — MXF Generic Container

SMPTE 390M-2004, Television — Material Exchange Format (MXF) — Specialized Operational Pattern "Atom" (Simplifies Representation of a Single Item)

SMPTE RP 224, SMPTE Labels Registry

Internet Engineering Task Force (IETF) RFC 2046 (November 1996), Multipurpose Internet Mail Extensions (MIME), Part Two: Media Types

3 Overview

A D-Cinema Sound and Picture Track File is an indexed, randomly-accessible MXF container for a single clip of a single essence track. D-Cinema Sound and Picture Track Files shall not contain interleaved, multiplexed, multi-scene or multi-format essence.

This standard is implemented as a set of restrictions on SMPTE 377M (MXF) and 390M (OP-ATOM). These restrictions fall in four broad categories:

- Pattern (in this case, a restricted version of SMPTE 390M OP-ATOM)
- Essence (in this case, an essence container that complies with SMPTE 379M)
- Header Metadata (in this case, strict compliance with SMPTE 377M)
- Descriptive Metadata (in this case, a small set of essential data)

This standard is not a complete specification of a Track File for a particular essence type. It is intended to be combined with a standard essence mapping, essence constraints and optional encryption container to form a complete specification. These standards and respective combinations are beyond the scope of this standard.