

SMPTE STANDARD

Ultra High Definition Television¹ —
Audio Characteristics and Audio Channel
Mapping for Program Production



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¹ Ultra High Definition Television - UHD TV

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 2036-2 was prepared by Technology Committee A29.

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.

Introduction

SMPTE 2036 Ultra High Definition Television (UHDTV) suite of documents is in multiple parts:

Part 1: Image Parameter Values for Program Production

Part 2: Audio Characteristics and Audio Channel Mapping for Program Production

This document is Part 2 of SMPTE 2036 and describes the audio characteristics and audio channel mapping for program production.

Part 1 specifies the family of progressive image sample structures for UHDTV program production.

The channel-mapping and labeling scheme described in this document is intended for UHDTV and specifies the channel-mapping and labeling for 24 audio channels. This mapping takes into account historical practice and standards work of both SMPTE and ITU-R.

1 Scope

This document specifies the characteristics of digital audio for UHDTV program production and distribution. This document also defines the mapping and labeling of 22.2 multichannel audio for UHDTV program production.

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.

3 Normative References

The following standard contains provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the edition indicated was 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 standard indicated below.

AES3-2003, AES Standard for Digital Audio Engineering — Digital Input-Output Interfacing — Serial Transmission Format for Two-Channel Linearly Represented Digital Audio Data (Revision of AES3-1992)

4 Definition of Terms

UHDTV: Ultra High Definition Television, having an image format (sample structure) of 3840 × 2160 or 7680 × 4320 at a frame rate of 50P, 59.94P or 60P.

UHDTV1: Class of UHDTV having an image format (sample structure) of 3840 × 2160 at a frame rate of 50P, 59.94P or 60P.