Dolby-E Channel Mapping
Encoding Best Practice

This practice defines how to encode reference Dolby-E audio in Manifest Channel Mapping

REVISION HISTORY

Version	Date	Description
1.0	TBD	Initial publication

1 DOLBY-E

Dolby-E is a proprietary method of encoding multiple channels in audio channels. It is documented in the following specifications:

[DOLBYE] Dolby E documentation, September 30, 2021, https://professionalsupport.dolby.com/s/article/Dolby-E-documentation?language=en_US

[DOLBYE-Frame] *Dolby E High-Level Frame Description, Issue 3*. https://professionalsupport.dolby.com/s/article/Dolby-E-documentation?language=en_US

[SMPTERDD33] SMPTE RDD 33:2015, *Format for Non-PCM Audio and Data in AES3 — Dolby-E® Data Type*, https://pub.smpte.org/doc/rdd33/20150327-pub/

[EBU3285S6] EBU Tech 3285 S6, *EBU Tech 3285 Supplement 6: BWF - Dolby Metadata*, Oct. 11, 2009, https://tech.ebu.ch/publications/tech3285s6

2 AUDIO CODEC

"DOLBY-E" shall be used as the codec for Dolby E audio.

3 CHANNEL MAPPING

Channel mapping provides information about where to find the pair of Dolby E frames, and how those frames are encoded. The first frame of the pair is referred to as Left ("L"), and the second is Right ("R").

Dolby E uses the following channel mapping

- Dolby E tracks are encoded as "DE" + <Dolby E Frame> + <Program Config>, where
    - <Dolby Frame> is "L" or R" representing the first Dolby E Audio frame and second Dolby E Frame Description [DOLBYE-Frame] respectively.
    - <Program Config> is a 2-digit number (with leading zeros for values <10) representing the Program Configuration in Table 1 of Dolby E High-Level Frame Description [DOLBYE-Frame]
    - For example, with a track configuration of "DEL11,DER11". DEL refers to the first Dolby E frame, and '11' refers to a program configuration of 11 in Table 1 of [DOLBYE-Frame] (5.1).
- When appropriate Dolby E and other tracks can be combined. For example, a layout that includes 5.1 as distinct tracks plus two Dolby E tracks encoded as 5.1 would be as follows: "L,R,C,LFE,LS,RS,DEL11,DER11".

4 SPECIAL CASES

4.1 2.0 Dolby E

Dolby E does not directly support 2.0. However, 2.0 can be encoded as program configuration 11 with Dolby E AC3 metadata with ac3_mod encoded as '2' (Section 4.8.3 of [DOLBYE-FRAME]). In this case, Program 11 should still be used with Audio/Channels = '2.0'.

4.2 5.0 Dolby E

If ac3_lfeon = '0' (Section 4.8.7 of [DOLBYE-FRAME]), 5.1 program configurations should be interpreted as 5.0.

4.3 Description Field

Dolby E description_text as described in Section 4.4.1 of [DOLBYE-FRAME], may be included in Audio/SubType. See also [EBU3285S6], Section 4.2.13. Remove null termination if present.