



# **Additional Audio Channels and Soundfields for Immersive Audio**

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## 1. Scope

This specification defines additional Audio Channels to allow their use when delivering channel-based immersive audio in an Interoperable Master Format (IMF) Audio Track File per SMPTE ST 2067-2 and ST 2067-8. For each Audio Channel, information is provided to support identification using the MCA Labeling Descriptor (ST 377-4). In addition, some Soundfield Groups are defined that use these Audio Channels.

## 2. References

ITU-R BS.2051-2, *Advanced sound system for programme production*

SMPTE ST 2067-2:2016, Interoperable Master Format—Core Constraints

SMPTE ST 2067-8, Interoperable Master Format—Common Audio Labels

## 3. Audio Channel Definitions

Audio Channels defined by this specification are listed in Table 1.

Table 1

UL	Name	Label	ITU-R BS 2051-2 Channel Name/System
06.0E.2B.34.04.01.01.05.0E.09.01.01.04.01.00.00	Left Wide	Lw	Front Left (M+060)/H
06.0E.2B.34.04.01.01.05.0E.09.01.01.04.02.00.00	Right Wide	Rw	Front Right (M-060)/H
06.0E.2B.34.04.01.01.05.0E.09.01.01.04.03.00.00	Left Top Front	Ltf	Left top front/
06.0E.2B.34.04.01.01.05.0E.09.01.01.04.04.00.00	Right Top Front	Rtf	Right top front/
06.0E.2B.34.04.01.01.05.0E.09.01.01.04.05.00.00	Top Side Left	TpSiL	Top side left/H
06.0E.2B.34.04.01.01.05.0E.09.01.01.04.06.00.00	Top Side Right	TpSiR	Top side right/H
06.0E.2B.34.04.01.01.05.0E.09.01.01.04.07.00.00	Left Top Back	Ltb	Left top back/
06.0E.2B.34.04.01.01.05.0E.09.01.01.04.08.00.00	Right Top Back	Rtb	Right top back/

## 4. Soundfield Group Definitions

Soundfield Groups defined by this specification are listed in Table 2. Each Audio Channel contained in the Soundfield Group is listed along with its Name and Label. Audio Channels that are listed, but not described in this document are defined in SMPTE ST 2067-8 or its normative references.

Table 2

UL	Name	Label	Audio Channels (by symbol)
06.0E.2B.34.04.01.01.05.0E.09.01.01.05.01.00.00	5.1.2	512	L,R,C,LFE,Ls,Rs,TpSiL,TpSiR
06.0E.2B.34.04.01.01.05.0E.09.01.01.05.02.00.00	5.1.4	514	L,R,C,LFE,Ls,Rs,Ltf,Rtf,Ltb,Rtb
06.0E.2B.34.04.01.01.05.0E.09.01.01.05.03.00.00	7.1.2	712	L,R,C,LFE,Lss,Rss,Lrs,Rrs,TpSiL,TpSiR
06.0E.2B.34.04.01.01.05.0E.09.01.01.05.04.00.00	7.1.4	714	L,R,C,LFE,Lss,Rss,Lrs,Rrs,Ltf,Rtf,Ltb,Rtb
06.0E.2B.34.04.01.01.05.0E.09.01.01.05.05.00.00	9.1.2	912	L,R,C,LFE,Lss,Rss,Lrs,Rrs,Lw,Rw,TpSiL,TpSiR
06.0E.2B.34.04.01.01.05.0E.09.01.01.05.06.00.00	9.1.4	914	L,R,C,LFE,Lss,Rss,Lrs,Rrs,Lw,Rw,Ltf,Rtf,Ltb,Rtb
06.0E.2B.34.04.01.01.05.0E.09.01.01.05.07.00.00	9.1.6	916	L,R,C,LFE,Lss,Rss,Lrs,Rrs,Lw,Rw,Ltf,Rtf,TpSiL,TpSiR,Ltb,Rtb

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## 5. Usage with MCALabelSubdescriptor

### MCA Label Dictionary ID

The MCA Label Dictionary ID shall be set to the UL (Universal Label) defined in the appropriate table in this document (Table 1 for channels and Table 2 for Soundfield Groups).

### MCA Tag Symbol

The MCA Tag Symbol shall be set to the Label defined in the appropriate table in this document and prepended with the string `ch` for audio channels or the string `sg` for Soundfield Groups. For example, the Channel with the Label `Lw` would have an MCA Tag Symbol of `chLw`, and the Soundfield Group with the Label `512` would have an MCA Tag Symbol of `sg512`.

Note: This MCA Tag Symbol construction is derived from SMPTE ST 2067-2, Table 8.

### MCA Tag Name

MCA Tag Name shall be set to the Name defined in the appropriate table in this document.