Generic Audio

***Bluetooth*® Document**

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Audio Location Definitions

Audio Location	Values (Bitmap)
Not Allowed	0x00000000
Front Left	0x00000001
Front Right	0x00000002
Front Center	0x00000004
Low Frequency Effects 1	0x00000008
Back Left	0x00000010
Back Right	0x00000020
Front Left of Center	0x00000040
Front Right of Center	0x00000080
Back Center	0x00000100
Low Frequency Effects 2	0x00000200
Side Left	0x00000400
Side Right	0x00000800
Top Front Left	0x00001000
Top Front Right	0x00002000
Top Front Center	0x00004000
Top Center	0x00008000
Top Back Left	0x00010000
Top Back Right	0x00020000
Top Side Left	0x00040000
Top Side Right	0x00080000
Top Back Center	0x00100000
Bottom Front Center	0x00200000
Bottom Front Left	0x00400000
Bottom Front Right	0x00800000
Front Left Wide	0x01000000
Front Right Wide	0x02000000
Left Surround	0x04000000
Right Surround	0x08000000
RFU	0x10000000
RFU	0x20000000
RFU	0x40000000
RFU	0x80000000

Audio Input Type Definitions

Label	Description	Value
Unspecified	Unspecified input	0x00
Bluetooth	Bluetooth audio stream	0x01
Microphone	Microphone	0x02
Analog	Analog interface	0x03
Digital	Digital interface	0x04
Radio	AM/FM/XM/etc.	0x05
Streaming	Streaming audio source	0x06

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Context Type

Label	Description	Value
Prohibited	Prohibited	0x0000
Unspecified	Unspecified	0x0001 (bit 0)
Conversational	Conversation between humans, for example, in telephony or video calls, including traditional cellular as well as VoIP and Push-to-Talk	0x0002 (bit 1)
Media	Media, for example, music playback, radio, podcast or movie soundtrack, or tv audio	0x0004 (bit 2)
Game	Audio associated with video gaming, for example gaming media; gaming effects; music and in-game voice chat between participants; or a mix of all the above	0x0008 (bit 3)
Instructional	Instructional audio, for example, in navigation, announcements, or user guidance	0x0010 (bit 4)
Voice assistants	Man-machine communication, for example, with voice recognition or virtual assistants	0x0020 (bit 5)
Live	Live audio, for example, from a microphone where audio is perceived both through a direct acoustic path and through an LE Audio Stream	0x0040 (bit 6)
Sound effects	Sound effects including keyboard and touch feedback; menu and user interface sounds; and other system sounds	0x0080 (bit 7)
Notifications	Notification and reminder sounds; attention-seeking audio, for example, in beeps signaling the arrival of a message	0x0100 (bit 8)
Ringtone	Alerts the user to an incoming call, for example, an incoming telephony or video call, including traditional cellular as well as VoIP and Push-to-Talk	0x0200 (bit 9)
Alerts	Alarms and timers; immediate alerts, for example, in a critical battery alarm, timer expiry or alarm clock, toaster, cooker, kettle, microwave, etc.	0x0400 (bit 10)
Emergency alarm	Emergency alarm Emergency sounds, for example, fire alarms or other urgent alerts	0x0800 (bit 11)
RFU	Reserved for Future Use	Any other bit

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Subsection: Codec_Specific_Capabilities LTV structures

Supported_Sampling_Frequencies

Parameter	Size (Octets)	Value
Length	1	0x03
Type	1	0x01
Value	2	Bitfield of supported sampling frequencies 0b1 = supported, 0b0 = not supported Bit 0: 8,000 Hz Bit 1: 11,025 Hz Bit 2: 16,000 Hz Bit 3: 22,050 Hz Bit 4: 24,000 Hz Bit 5: 32,000 Hz Bit 6: 44,100 Hz Bit 7: 48,000 Hz Bit 8: 88,200 Hz Bit 9: 96,000 Hz Bit 10: 176,400 Hz Bit 11: 192,000 Hz Bit 12: 384,000 Hz

Supported_Frame_Durations

Parameter	Size (Octets)	Value
Length	1	0x02
Type	1	0x02
Value	1	Bitfield Bit 0: 7.5 ms frame duration. 0b1 = supported, 0b0 = not supported Bit 1: 10 ms frame duration. 0b1 = supported, 0b0 = not supported Bit 2: RFU Bit 3: RFU Bit 4: 7.5 ms preferred. Valid only when 7.5 ms is supported and 10 ms is supported. Shall not be set to 0b1 if bit 5 is set to 0b1. Bit 5: 10 ms preferred. Valid only when 7.5 ms is supported and 10 ms is supported. Shall not be set to 0b1 if bit 4 is set to 0b1. Bit 6: RFU Bit 7: RFU

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Supported_Audio_Channel_Counts

Parameter	Size (Octets)	Value
Length	1	0x02
Type	1	0x03
Value	1	Bitfield 0b0 = Channel count not supported 0b1 = Channel count supported Bit 0: Channel count: 1 Bit 1: Channel count: 2 Bit 2: Channel count: 3 Bit 3: Channel count: 4 Bit 4: Channel count: 5 Bit 5: Channel count: 6 Bit 6: Channel count: 7 Bit 7: Channel count: 8 Bit position 0x00: RFU

Supported_Octets_Per_Codec_Frame

Parameter	Size (Octets)	Value
Length	1	0x05
Type	1	0x04
Value	4	Octet 0–1: Minimum number of octets supported per codec frame Octet 2–3: Maximum number of octets supported per codec frame

Supported_Max_Codec_Frames_Per_SDU

Parameter	Size (Octets)	Value
Length	1	0x02
Type	1	0x05
Value	1	Maximum number of codec frames per SDU supported by this device

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Subsection: Codec_Specific_Configuration LTV structures

Sampling_Frequency

Parameter	Size (Octets)	Value
Length	1	0x02
Type	1	0x01
Value	1	Selected codec sampling frequency 0x01: 8,000 Hz 0x02: 11,025 Hz 0x03: 16,000 Hz 0x04: 22,050 Hz 0x05: 24,000 Hz 0x06: 32,000 Hz 0x07: 44,100 Hz 0x08: 48,000 Hz 0x09: 88,200 Hz 0x0A: 96,000 Hz 0x0B: 176,400 Hz 0x0C: 192,000 Hz 0x0D: 384,000 Hz

Frame_Duration

Parameter	Size (Octets)	Value
Length	1	0x02
Type	1	0x02
Value	1	Selected codec frame duration 0x00: Use 7.5 ms codec frames 0x01: Use 10 ms codec frames All other values: RFU

Audio_Channel_Allocation

Parameter	Size (Octets)	Value
Length	1	0x05
Type	1	0x03
Value	4	4-octet bitfield of Audio Location values

Octets_Per_Codec_Frame

Parameter	Size (Octets)	Value
Length	1	0x03
Type	1	0x04
Value	2	Number of octets used per codec frame

Codec_Frame_Blocks_Per_SDU

Parameter	Size (Octets)	Value
Length	1	0x02
Type	1	0x05
Value	1	Number of blocks of codec frames per SDU

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Subsection: Metadata LTV structures

Preferred_Audio_Contexts

Parameter	Size (Octets)	Value
Length	1	0x03
Type	1	0x01
Value	2	Bitfield of Context Type values See Context Type values defined in Table X.Y. 0b0 = Context Type is not a preferred use case for this codec configuration. 0b1 = Context Type is a preferred use case for this codec configuration.

Streaming_Audio_Contexts

Parameter	Size (Octets)	Value
Length	1	0x03
Type	1	0x02
Value	2	Bitfield of Context Type values See Context Type values defined in Table X.Y. 0b0 = Context Type is not an intended use case for the Audio Stream. 0b1 = Context Type is an intended use case for the Audio Stream.

Program_Info (Note: This allocation is associated with a draft specification and is subject to change)

Parameter	Size (Octets)	Value
Length	1	Varies
Type	1	0x03
Value	Varies	Title and/or summary of Audio Stream content: UTF-8 format

Language (Note: This allocation is associated with a draft specification and is subject to change)

Parameter	Size (Octets)	Value
Length	1	0x04
Type	1	0x04
Value	3	3-byte, lower case language code as defined in ISO 639-3

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CCID_List (Note: This allocation is associated with a draft specification and is subject to change)

Parameter	Size (Octets)	Value
Length	1	Varies
Type	1	0x05
Value	Varies	Array of CCID values

Parental_Rating (Note: This allocation is associated with a draft specification and is subject to change)

Parameter	Size (Octets)	Value
Length	1	0x02
Type	1	0x06
Value	1	Bits 0 – 3 Value representing the parental rating : 0x00 – no rating 0x01 – recommended for listeners of any age Other values – recommended for listeners of age Y years, where Y = value + 3 years. e.g. 0x05 = recommended for listeners of 8 years or older Bits 4 – 7 RFU The numbering scheme aligns with Annex F of EN 300 707 v1.2.1 which defines parental rating for viewing. https://www.etsi.org ETSI EN 300 707 V1.2.1 (2002-12)

Program_Info_URI (Note: This allocation is associated with a draft specification and is subject to change)

Parameter	Size (Octets)	Value
Length	1	Varies
Type	1	0x07
Value	Varies	A UTF-8 formatted URL link used to present more information about Program_Info.

Extended Metadata

Parameter	Size (Octets)	Value
Length	1	Varies
Type	1	0xFE
Value	Varies	Octet 0-1 = Extended Metadata Type Octet 2-254… = Extended Metadata

Vendor_Specific

Parameter	Size (Octets)	Value
Length	1	Varies
Type	1	0xFF
Value	Varies	Octet 0-1 = Company_ID Company ID values are defined in Bluetooth Assigned Numbers. Octet 2-254… = Vendor-Specific Metadata