

ISO/IEC 23090-32:2025-08 (E)

Information technology - Coded representation of immersive media - Part 32: Carriage of haptics data

Contents		Page
Foreword		v
1	Scope	1
2	Normative references	1
3	Terms, definitions, and abbreviated terms	1
3.1	Terms and definitions	1
3.2	Abbreviated terms	3
4	Overview	3
4.1	General	3
4.2	Haptic media	3
4.2.1	Structure of haptic media	3
4.2.2	MIHS streams	3
4.2.3	Temporal units and MIHS samples	4
4.3	Synchronization with other media	5
4.4	Summary of referenceable code points	5
4.4.1	Brands	5
4.4.2	Sample entry types	5
4.4.3	Box types	6
4.4.4	Track reference types	6
4.4.5	Entity grouping types	7
4.4.6	Sample grouping types	7
5	Carriage of haptic coding data	7
5.1	General	7
5.2	MIHS streams and tracks	7
5.2.1	Referencing MIHS band tracks	7
5.2.2	Grouping MIHS band tracks	8
5.2.3	MIHS band entity group	8
5.2.4	MIHS sample entry	9
5.2.5	MIHS band sample entry	9
5.2.6	MIHS configuration box	10
5.2.7	Haptic experience description box	11
5.2.8	Haptic experience description header box	11
5.2.9	Haptic avatar description box	12
5.2.10	Haptic perception description box	13
5.2.11	Haptic perception description header box	13
5.2.12	Haptic reference device description box	15
5.2.13	Haptic channel description box	17
5.2.14	Haptic channel description header box	17
5.2.15	Haptic band description box	19
5.2.16	Sample format	20
5.2.17	Haptics presentation dependency sample group	21
5.2.18	Haptics silent unit sample group	21
6	Encapsulation and Signalling in MPEG-DASH	22
6.1	General	22
6.2	Haptics Media MPD signalling	22
6.3	Basic MIHS track support	22

6.3.1	DASH segment and MPD signalling	22
6.4	Multiple MIHS tracks support	22
6.4.1	Alternative tracks	23
6.4.2	Alternative tracks with different bitrates and/or qualities	23
6.4.3	DASH segment and MPD signalling for bitrate switching	23
6.5	Synchronizing with other media representations	23
6.6	Signalling of Multi-track Haptics Experiences	23
6.6.1	Initialization and Media Segments	24
6.6.2	Bitstream Switching	24
6.7	Haptics experience descriptor	24
6.7.1	The hapticsExperience XML element	25
6.7.2	The hapticsAvatar XML element	26
6.7.3	The hapticsPerception XML element	26
6.7.4	The hapticsChannel XML element	27
6.7.5	The hapticsBandsDescription XML element	27
6.7.6	The hapticsBand XML element	28
6.7.7	The hapticsReferenceDevice XML element	28
Annex A (normative)Fileformattoolsetsandbrands		30
Annex B (normative)MIMEtypesandsub-parameters		35
Annex C (informative) Multiple MIHS tracks and alternate groups		36
Annex D (informative) Player handling of MIHS tracks		37
Annex E (normative) Haptics DASH MPD Schema		38
Annex F (informative) DASH MPD Examples		41