

ISO/IEC 23003-3:2012-04 (E)

Information technology - MPEG audio technologies - Part 3: Unified speech and audio coding

Contents		Page
Foreword		iv
Introduction		v
1	Scope	1
2	Normative references	1
3	Terms, definitions, symbols and abbreviated terms	1
3.1	Terms and definitions	1
3.2	Symbols and abbreviated terms	2
4	Technical Overview	2
4.1	Decoder block diagram	2
4.2	Overview of the decoder tools	5
4.3	Combination of USAC with MPEG Surround and SAOC	8
4.4	Interface between USAC and Systems	9
4.5	USAC Profiles and Levels	9
5	Syntax	12
5.1	General	12
5.2	Decoder configuration (UsacConfig)	12
5.3	USAC bitstream payloads	17
6	Data Structure	50
6.1	USAC configuration	50
6.2	USAC payload	63
7	Tool Descriptions	81
7.1	Quantization	81
7.2	Noise Filling	82
7.3	Scalefactors	84
7.4	Spectral Noiseless coding	84
7.5	enhanced SBR Tool (eSBR)	90
7.6	Inter-subband-sample Temporal Envelope Shaping (inter-TES)	139
7.7	Joint Stereo Coding	142
7.8	TNS	149
7.9	Filterbank and block switching	151
7.10	Time-Warped Filterbank and Blockswitching	159
7.11	MPEG Surround for Mono to Stereo upmixing	167
7.12	AVQ decoding	180
7.13	LPC-filter	186
7.14	ACELP	193
7.15	MDCT based TCX	202
7.16	Forward Aliasing Cancellation (FAC) tool	206
7.17	Post-processing of the synthesis signal	208
Annex A (normative) Tables		211
Annex B (informative) Encoder Tools		216

Annex C (normative) Tables for Arithmetic Decoder	254
Annex D (normative) Tables for Predictive Vector Coding	260
Annex E (informative) Adaptive Time / Frequency Post-Processing	269
Annex F (informative) Audio/Systems Interaction	275
Annex G (informative) Patent Statements	277
Bibliography	278