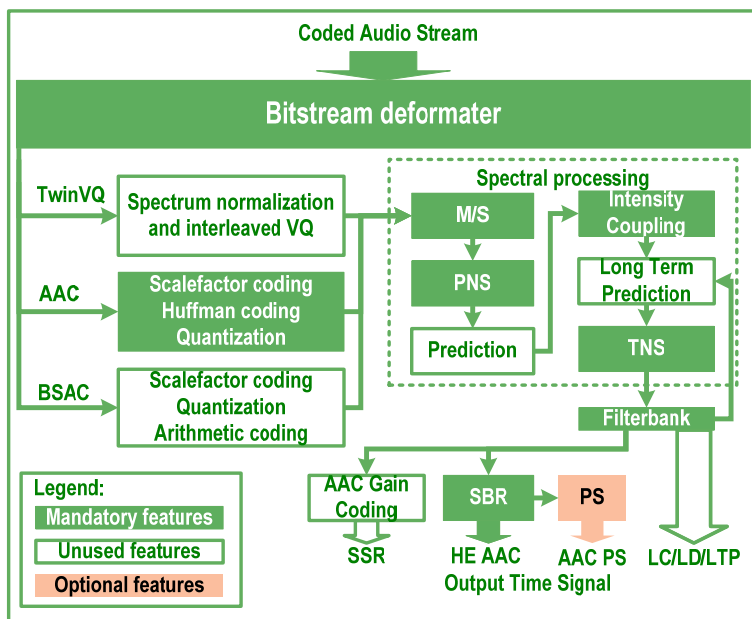


SPIRIT HE AAC Decoder

High Efficiency Advanced Audio Coding technology (also known as AAC+) was standardized as Part 3 of the MPEG-4 international standard. The Advanced Audio Coding in MPEG-4 Part 3 was enhanced relative to specifications of MPEG-2 Part 7 (AAC LC and Main profiles), in order to provide better sound quality in terms of the bit rate used for encoding. HE AAC v1 (or AAC+) technology combines Advanced Audio Coding (AAC) and Spectral Band Replication (SBR) algorithms. HE AAC technology can also be advanced to HE AAC v2 or eAAC+. This profile features Parametric Stereo (PS) technique. The codec can operate at very low bitrates and generally outperforms other popular codecs in the 32-64 Kbps range.

SPIRIT HE AAC Decoder is fully compliant to the MPEG-4 Part 3 standard. It implements all HE AAC features for embedded platforms. SPIRIT HE AAC Decoder has high decoding performance, lowering the final system cost and saving more CPU power and memory space.



Features

- High optimization
- Full compliance with MPEG-4 part 3 standard
- Support for AAC+v1 with high quality SBR mode
- Support for AAC+v2 with baseline PS mode
- Sampling rates from 8 to 96 kHz
- Bit rates from 8 to 576 Kbps for mono and from 16 to 1152 Kbps for stereo signal
- Support for LC profile
- Optional LD/LTP/SSR decoding tools support
- Simple API

Benefits

- Highly optimized code ideal for resource constrained applications
- Easy integration and fast time to market
- Allows to save several hours of SoC battery life

Key Features

- AAC HE v1 and v2 support
- Low CPU load
- Small memory footprint
- Simple API
- Fully compliant to the ISO MPEG standard

Applications

- Portable media players
- Set-top boxes
- Mobile phones
- Digital Radio Mondiale
- Car electronics

Availability

- | | |
|-------------------|------|
| • TIC6xx | Now |
| • ARM9E | Now |
| • Tensilica HiFi2 | Now |
| • MIPS | Call |
| • TI OMAP3 | Call |
| • AudioDE | Call |

Specifications

SPIRIT HE AAC codec is fully compliant to the MPEG-4 Part 3 (ISO/IEC 14496-3) international standard. TI C6xx version is eXpressDSP compliant. Code is reentrant, supports multithreading and dynamic memory allocation. At the same time allows direct (non-eXpressDSP) interface to enable static memory allocation.

SPIRIT HE AAC implements High-Quality SBR (HQ SBR) and baseline PS by default.

Optional features:

- Unrestricted PS

Resource Requirements

PLATFORM	ARM9E		TI C6xx
PROFILE	HE AAC v1	HE AAC v2	HE AAC v1
Peak MIPS*	22	23	25
Average MIPS*	17	20	15
Program Memory, KB	29	33.7	115
Const Memory, KB	16	18.4	35
Persistent Memory, KB per channel	20	20.5	15
Scratch Memory, KB	32	45	50
Stack, KB	1	1	2

* MIPS are measured for typical musical content, 48 kHz, stereo, using simulator with 0 WS for TI C6xx platform, MIPS figures correspond to MCPS

PLATFORM	Tensilica HiFi2
PROFILE	HE AAC v2
Peak MIPS*	20
Average MIPS*	17,6
Program Memory, KB	70
Const Memory, KB	20
Persistent Memory, KB per channel	21
Scratch Memory, KB	47

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