

Overview

The **AAC-LC Stereo Audio Decoder** (IPB-AAC-LC-SD) is a software IP for decoding one stereo stream in AAC-LC format. It is designed to run on our IPB-PLAT audio engine platform, which may support encoding and decoding of multiple streams in multiple formats on a single device.

The IPB-AAC-LC-SD software requires an instance of the IPB-PLAT audio engine platform named **IPB-PLAT-10**. This instance contains only one processor.

The user can upload the IPB-AAC-LC-SD program using a hardware interface. The program can be configured, run and monitored by means of a configuration, control, and status register file, accessed by the same control interface.

The audio input and output interfaces include a native parallel interface. Other interfaces, such as, I²S/TDM and SPDIF/AES3 are also available.

Features

- AAC-LC decoders are compliant with the ISO/IEC 13818-7 audio standard, using Fraunhofer IIS high quality software
- Supported transport types: ADIF, ADTS, LATM, and LOAS
- Supported channel modes: mono, dual mono, and stereo
- 16-bit output audio resolution
- Requires 1,2 MB of external memory
- Configurable latency (minimum: 1 frame) useful to synchronize with other sources (e.g. video)
- Software interface protocol for commands, configuration and monitoring
- Parameter change while muting or repeating one frame
- Real time operation @80 MHz

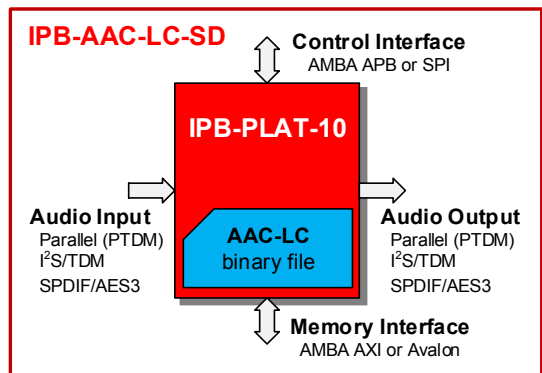
⁽¹⁾ Implementation results for other FPGAs or ASIC technologies can be provided upon request

Disclaimer: IPbloq reserves the right to modify the current technical specifications without notice

Benefits

- Compact hardware implementation – fits economically in FPGAs and ASICs
- Low operation frequency
- Low power consumption
- Small external memory footprint

Block Diagram



Implementation Results⁽¹⁾

Intel/Altera Cyclone-V

ALMs	Registers	DSPs	Memory bits
4,100	4,080	4	312,000

Xilinx Spartan-6

LUTs	FFs	DSPs	BRAM 18K
6,400	3,550	4	22

Deliverables

- Program binary
- Software manual
- Hardware datasheet
- RTL of FPGA netlist
- Implementation constraints

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