

ITU-T G.729AB Reduced Complexity Speech Codec for Analog Devices Blackfin



G.729AB Speech Codec

G.729AB is a reduced complexity version of G.729 speech coder standard from the ITU-T, for compressing the toll quality speech (8000 samples/second) at 8kbps. Annex B implements optional silence-compression techniques to reduce the transmitted bit rate during the silent periods of speech (voice activity detection).

Typical applications of this speech coder are in telephony over packet networks, like Voice-over-Internet-Protocol (VoIP).

Our implementation of a G.729AB is available for Blackfin platforms and can be demonstrated on BF533-EZLite or simulated on PC platforms.

The algorithm was implemented to be independent of the hardware interface, i.e. the user specifies input and output channels and must handle buffers in his framework.

The algorithm is fully re-entrant and can easily be integrated in a "C"-environment.



Specifications:

- 20 MIPS per encoder channel (max. G729A)
21 MIPS per encoder channel (max. G729AB)
- 3.6 MIPS per decoder channel (max. G729A)
9 MIPS per decoder channel (max. G729AB)
- 31 kBytes program memory (G729A)
42 kBytes program memory (G729AB)
- 5.8 kBytes data memory (G729A)
6.3 kBytes data memory (G729AB)
- 1956 Bytes data memory/encoder channel
- 1512 Bytes data memory/decoder channel
- ITU G.729A/B compliant for all bitrates
- Runs on all Blackfin devices

Support

- Demo for BF533-EZLite available under NDA
- Fully documented separate libraries for encoder and decoder
- Customization/Integration support available
- Code portable to other platforms (DSP, non-DSP)

Ingenieurbüro Bayer DSP Solutions

Ingenieurbüro Bayer DSP Solutions was founded more than a decade ago by Andreas Bayer, a first hour DSP specialist.

Originally specializing in the telecommunication field, the company has grown its DSP expertise to provide comprehensive services around Digital Signal Processing applications by using DSP chips from Analog Devices, Texas Instruments, NEC, Freescale and other renowned DSP vendors.

Our goal is to provide comprehensive coverage of all Digital Signal Processing topics, including hardware design, FPGA design, DSP algorithms, software integration, tools and complete products.

Today we support many DSP families including Texas Instruments C54x, C55x, C3x, C6x, Analog Devices ADSP218x, SHARC and Blackfin, Motorola DSP56K as well as DSPs from other vendors.

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