ITU-T G.729A/B Reduced Complexity Speech Codec for Blackfin DSP

ITU-T G.729A Speech Codec

G.729A is a reduced complexity version of ITU-T G.729 speech coder standard from International Telecommunication Union–Telecommunication standardization sector (ITU-T), for compressing the toll quality speech (8000 samples/second) at 8kbps.

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

Our implementation of a G.729A/B is available for Blackfin platforms and can be demonstrated on BF533-EZLite.

The algorithm was implemented to be independent of the hardware interface, ie. 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 (preliminary):

- 19 MIPS per channel (encoder + decoder)
- 19KWords program memory
- 3KWords data memory
- 1002 Words data memory / encoder channel
- 749 Words data memory / decoder channel
- Runs on all Blackfin devices
- Tested for ITU G.729A/B compliance

Support

Available under NDA as a compiled library

Customization/Integration support available

Code portable to other platforms (DSP, non-DSP)

Demo for BF533-EZLite available

Bayer DSP Solutions

was founded in 1995 and offers tools, hardware, software, algorithm and integration services around digital signal processing applications.

A major focus is on telecommunications applications. Bayer DSP Solutions has developed a number of proprietary algorithms for use in private branch exchanges (PBX) for most popular DSP platforms.

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Supported DSP families include Analog Devices ADSP218x, SHARC and Blackfin, TI's C54x, C55x, C3x, C6x, Motorola DSP56K and DSP568xx, ARM as well as DSPs from other vendors.

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