

# ETSI GSM Fullrate Speech Codec for Analog Devices Blackfin



## ETSI 06.10 GSM-FR Speech Codec

Our GSM Fullrate Speech Codec is an ETSI compliant algorithm for Blackfin DSP devices which can be used in systems requiring multiple channels at moderate bit rates.

The GSM-FR speech codec is used in cellular telephony applications but is also suitable for multi-channel VoIP applications, for announcement systems or intercoms where low MIPS and memory requirement are crucial. The algorithm is a bit-exact implementation of the worldwide excepted standard for medium bit rate speech compression.

Our implementation of a GSM-FR Speech Codec 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:



- 3.3 MIPS per encoder channel (max.)
- 1.8 MIPS per decoder channel (max.)
- 10 kBytes program memory
- 163 Bytes data memory
- 1212 Bytes data memory/encoder channel
- 792 Bytes data memory/decoder channel
- Full compliance with ETSI ETS 300 961
- Excellent for use in answering machines or voice mailboxes requiring only 13kbps
- Lowest MIPS @ highest quality
- Full support of multi-channel solutions
- 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.

Ingenieurbüro Bayer DSP Solutions is a registered and active Third Party of Analog Devices, Texas Instruments and other silicon vendors.



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