

ETSI GSM Fullrate Speech Codec for Texas Instruments C5000



ETSI 06.10 GSM-FR Speech Codec

Our GSM Fullrate Speech Codec is an ETSI compliant algorithm for Texas Instruments TMS320C5000 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 compliant with TMS320 DSP Algorithm Standard (XDAIS).

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:

- 4.3 MIPS per encoder channel (max.)
- 1.7 MIPS per decoder channel (max.)
- ~ 4 kBytes program memory
- ~ 200 Bytes data memory
- 1372 Bytes data memory/encoder channel
- 1372 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 TI C5x

Support

- Demo for C54/C55 DSK available under NDA
- Fully documented separate libraries for encoder and decoder
- XDAIS validated code
- 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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