

## SPiRiT 8000 bps Vocoder

SPiRiT 8000 bps vocoder implements a proprietary Improved Code-Excited Linear Prediction (ICELP) algorithm, based on well-known CELP model and strongly optimized, ensuring significant improvement of speech quality at low computational complexity. It can be effectively used in all applications where storage capacity and/or bandwidth are limited.

### Features

- High speech quality (MOS about 4.0)
- 8000 bps encoded bit stream rate
- Frame size 20 ms
- Algorithmic delay 30 ms
- Bit stream format 160 bits
- Automatic built-in Frame Synchronization and Comfort Noise Generation (CNG)
- Input/output samples format: Linear PCM, 8 kHz, 16 bits
- Very simple application interface
- Code is reentrant, supports multithreading and dynamic memory allocation

The product is supplied with test environment and integration example code.

Detailed Product Annotation and User Guide documents describing testing procedures, interface and integration of this product, as well as DSP-based (TI 5402 DSK) demo are available for evaluation upon request.

### Resource Requirements

PLATFORM	TI C54xx		
	Encoder	Decoder	Encoder+Decoder
Peak MIPS	22.2	2.2	24.4
Program Memory, KB	-	-	9.0
Const Memory, KB	-	-	8.7
Dynamic Memory, KB	-	-	1.3
Stack, KWords	-	-	1.2

PLATFORM	ARM7		
	Encoder	Decoder	Encoder+Decoder
Peak MIPS	44.3	5.4	49.7
Program Memory, KB	-	-	41.3
Const Memory, KB	-	-	13.81
Dynamic Memory, KB	-	-	2.27
Stack, KWords	-	-	1.65

### Benefits

- Highly optimized
- Low bitrate
- High speech quality

### Key Features

- Improved CELP algorithm

### Applications

- Trunking systems
- Wireless communications
- Digital voice over HF
- Call-logging systems
- Answering machines

### Availability

- DSP object code for TMS320C54xx
- DSP object code for TMS320C55xx (coming soon)
- DSP object code for ARM7
- Fully functional evaluation object code (available upon request)
- DLL for MS Windows

### CONTACTS

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