



# Encore's GSM-EFR

## Technology

GSM-EFR is an Enhanced Full Rate speech coder standardized by the European Telecommunications Standards Institute (ETSI) for compressing toll quality speech (8000 samples/second). The coder has a bit rate of 12.2kbps. This is a very robust speech coder, with very good speech quality better than 32 kbps ADPCM coder.

This coder uses the principle of Algebraic Code Excited Linear Prediction (ACELP). The coder works on a frame of 160 speech samples (20 msec), and no look ahead is required. So the algorithmic delay for the coder is 20 msec.

## Features

- Fully compatible/bit-exact with the GSM-EFR standard version 5.1.0, with discontinuous transmission (DTX) support, using Voice Activity Detection (VAD) and Comfort Noise Generation (CNG).
- DTX (VAD/CNG) enabling or disabling can be done on a frame basis.
- Full duplex multi-channel capability.
- Flexible interface with 'C' callability, with a single archive file for all functions.
- Built-in scratch memory management to avoid run-time overloading of system stack memory.
- The code is interruptible and frame re-entrant. It can be used in systems with multi threaded software architecture.
- Available in big endian format.

## Platforms

- TMS320C64X
- TMS320C62X

## Performance Numbers

| Platform   | Program Memory (KBytes) | Data Memory (KBytes) |         |        | MIPS |
|------------|-------------------------|----------------------|---------|--------|------|
|            |                         | Static/Channel       | Scratch | Tables |      |
| TMS320C64X | 90                      | 2.89                 | 6.0     | 20.34  | 11.8 |
| TMS320C62X | 90                      | 2.89                 | 6.0     | 20.34  | 11.8 |

## Availability

Now

For further information please visit our web site, <http://www.ncoretech.com> or email to: [ip@ncoretech.com](mailto:ip@ncoretech.com)