



Encore's G.722.1

Processor

TMS320C62x Series.

Technology

ITU-T G.722.1 is the coder for wideband speech operating at bit rates of 24 and 32kbps. Like all wideband speech coders, in G.722.1 also, the speech signal is sampled at 16000 samples/second. G.722.1 can handle speech and audio signal bandwidth upto 7 kHz, compared to 3.6 kHz in narrow band speech coders.

G.722.1 coder is based on transform technology, using a modulated lapped transform (MLT). The coder operates on 20 msec frames (320 samples) of audio and has a look-ahead of 20 msec. The total algorithmic delay is 40 msec.

G.722.1 decoder can tolerate 2% FER (Frame Erasure Rate) in frame erasure conditions.

Features

- Fully compatible/bit exact with the following ITU – T standard

ITU – T Recommendation G.722.1 (09/99).

Coding at 24 and 32 kbit/s for hands-free operation in systems with low frame loss

ITU – T Recommendation G.722.1 corrigendum 1 (11/00).

Coding at 24 and 32 kbit/s for hands-free operation in systems with low frame loss
Corrigendum 1

ITU – T Recommendation G.722.1 – Annex A (02/00).

Coding at 24 and 32 kbit/s for hands-free operation in systems with low frame loss Annex
A: Packet format, capability identifiers and capability parameters

Fully tested using the test vectors given in the following standard

ITU-T Recommendation G.722.1 (09/1999) Test Vectors

- Texas Instruments eXpressDSP™ compatible software architecture.
- Frame based design. The code is designed to work on a frame basis, and currently the frame size is 320 samples (20 msec).
- Optional bit packing utilities are available, with support for all modes of the system.
- 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.
- Relocatable program and data spaces. Static (state) and scratch data memory are dynamically relocatable. Program and table data spaces can be fragmented.
- The code is interruptible and full re-entrant. It can be used in systems with multi threaded software architecture.
- Supports little endian format.

Performance

Resource Requirements

(Internal Code Version 0.1, CCS Version 2.21)

Memory (Kbytes)

Program Memory	Data Memory		
	Tables	Static/Channel	Scratch
28.16	16.96	1.8	3.16

MCPS

MCPS measurements on **TMS320C6201** target EVM platform, with all code, tables, data and stack in internal memory.

	24 kbits/s	32 kbits/s
Encoder	1.87	1.92
Decoder	2.37	2.62
Full Duplex	4.24	4.54

Availability

Now.

For further information please visit our web site, <http://www.ncoretech.com> or email to: ip@ncoretech.com or contact:

Encore Software Limited
6th Floor Leo Complex
44 & 45 Residency Cross Road
Bangalore 560 025, INDIA
Tel: +91-80-4112 4291 to 95
Fax: +91-80-2558 7690