



Encore's G.729AB



Processor

TMS320C54x Series.

Technology

G.729 Annex A with Annex B (G.729AB) is a low bit rate speech coder standard from International Telecommunication Union–Telecommunication standardization sector (ITU-T), for compressing toll quality speech (8000 samples/second). G.729AB is algorithmically simpler to G.729. The coders G.729 and G.729A are inter-operable, i.e., G.729 packet can be decoded by G.729A decoder and vice versa. The typical applications of this speech coder are in telephony over packet networks, like Voice-over-Internet-Protocol (VoIP). This is a very robust speech coder, with very good speech quality comparable to 32 Kbps ADPCM coder.

This coder works at bit rate of 8000 bits/second. Like G.729 Codec, G.729AB is also based on the principle of Complementary Symmetry - Algebraic Code Excited Linear Prediction (CS-ACELP). The coder works on a frame of 80 speech samples (10 msec). Besides, there is a look ahead of 40 samples (5 msec). So the total algorithmic delay for the coder is 15 msec.

Features

- Fully compatible/bit-exact with the ITU-T G.729A standard with Annex B, version 1.1, with discontinuous transmission (DTX) support, using Voice Activity Detection (VAD) and Comfort Noise Generation (CNG).
- Texas Instruments eXpressDSP™ compatible software architecture.
- 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.
- Relocatable program and data spaces. Static (state) and scratch data spaces 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.

Performance

Resource Requirements

(Assembly Code 3.1)

Memory (KWords)

Program Memory	Data Memory		
	Tables	Static/Channel	Scratch
12.399	3.021	1.241	1.245

MIPS

MIPS measurements are taken on **TMS320C548** based target platform with following memory configurations (Everything in Internal Memory).

Program Memory		SARAM
Data Memory	Tables	SARAM
	Static	DARAM
	Scratch	DARAM

	Maximum	Average
VAD/CNG Enabled		
Encoder	10.27	9.10
Decoder	2.65	2.27
Full Duplex	12.92	11.37
VAD/CNG Disabled		
Encoder	10.27	10.12
Decoder	2.22	2.18
Full Duplex	12.49	12.30

Availability

Now.

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

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