



Encore's G.729AB

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 1.3, 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.

Platforms

- TMS320C64X
- TMS320C62X
- TMS320C54X
- TMS320C55X
- ARM9E
- ARM9
- Coldfire (M52xx, M53xx, M522xx)
- PowerPC
- LEXRA

Performance Numbers

Platform	Program Memory (KBytes)	Data Memory (KBytes)			MIPS
		Static/Channel	Scratch	Tables	
TMS320C64X	75.69	2.54	2.55	6.34	5.51
TMS320C62X	75.69	2.54	2.55	6.34	9.88
TMS320C54X	25.0	2.54	2.50	6.34	12.92
TMS320C55X	27.0	2.54		6.80	9.07
ARM11	57.0	2.54	2.55	6.83	19.6
ARM9E	57.0	2.54	2.55	6.83	19.5
ARM9	62.0	2.54	2.55	6.83	*35.0
Coretex-A8	57.0	2.54	2.55	6.83	11.3
M52xx, M53xx, M522xx	58.2	2.5	2.8	6.7	35
PowerPC	61.30	2.54	2.55	6.83	35.0
LEXRA	81.3	2.54	2.55	6.83	24

* This cycle was measured with 0 wait state memory, 16 Kbytes I/D cache, 32 bit bus width, ratio of core clock to bus clock=1

Availability

Now

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