



Encore's VAD/CNG

Technology

Voice Activity Detector and Comfort Noise Generator (VAD/CNG) is used in discontinuous transmission (DTX) enabled systems, where average bit rate of the codec is to be reduced. Average bit rate reduction is achieved by sending less or no bits during silence periods in long speech signals. VAD algorithm is used just before the speech codec. If voice activity is detected, signal would be coded with the speech codec. If there is no voice activity, the signal frame would be classified as either Silence Insertion Description (SID) frame or no transmission (NOTX) frame. Noise level of the SID frame is computed and packed. In the decoder, if a silence frame is available, the system would activate CNG.

Encore's VAD/CNG contains a voice activity detection algorithm, generation of SID packets during the silence period and generation of comfort noise.

This VAD/CNG mechanism can be used with any speech codec, without built in VAD/CNG algorithm, like ITU-T G.711, G.726, G.722, G.728 etc.

Features

- Configurable Frame size design. (20, 40, 80, 160 and 320 samples).
- Flexible interface with 'C' callability, with a single archive file for all functions.
- Relocatable program and data spaces. Static (state) and scratch data memory are dynamically relocatable.
- The code is interruptible and frame re-entrant. This code can be used in systems with multi threaded software architecture.

Platforms

- TMS320C64X
- TMS320C62X
- TMS320C55X
- ARM9E
- LEXRA

Performance Numbers

Platform	Program Memory (KBytes)	Data Memory (KBytes)			MIPS
		Static/Channel	Scratch	Tables	
TMS320C64X	15.69	0.92	1.17	0.6	2.21
TMS320C62X	15.69	0.92	1.17	0.6	3.28
TMS320C55X	8.48	0.938	1.69	1.22	2.83
ARM9E	26.0	0.938	1.69	1.6	*7.5
LEXRA	30.2	0.938	1.69	1.6	5.5

* 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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