

EVRC-B Vocoder

Enhanced Variable Rate Codec B

PRODUCT DESCRIPTION

Enhanced Variable Rate Codec B (EVRC-B) is a speech codec used by CDMA (Code Division Multiple Access) networks. EVRC-B is an extension to EVRC and compresses each 20 millisecond FRAMES of 8000 Hz, 16-bit sampled speech input into output frames of one of the four different sizes: Rate 1 - 171 bits, Rate 1/2 - 80 bits, Rate 1/4 - 40 bits, Rate 1/8 - 16 bits.

One significant enhancement in EVRC-B is the use of 1/4-rate frames that were not used in EVRC. The EVRC-B makes use of the intermediate coding rates through increased awareness of the nature of the individual speech samples. This provides lower average data rates compared to EVRC, for a given voice quality.

FEATURES

- Functions are C-callable.
- Multi-channel capable
- Can be integrated with echo cancellers, and tone detection/regeneration.

AVAILABILITY

ADT EVRC-B is available on the following Platforms: Other configurations are available upon request.

Product	Platform	Memory Model	Endian	Code Gen Tool Version
ADT_EVRCB_c64x	TI TMS320C64x	N/R	Little	V6.0.8
ADT_EVRCB_win32s	Windows 32 Static Library	N/A	N/A	Visual Studio 2005
ADT_EVRCB_win32d	Windows 32 DLL	N/A	N/A	Visual Studio 2005

*Endian, byte order: "Little Endian" means that the low-order byte of the number is stored in memory at the lowest address, and the high-order byte at the highest address. "Big Endian" means that the high-order byte of the number is stored in memory at the lowest address, and the low-order byte at the highest address.

Acronyms

Mm – Memory Model: Memory Model is specific to Texas Instruments processors.

N/A – Not Applicable

N/R – Not Recorded

SPECIFICATIONS

TI TMS320

C64x

CPU UTILIZATION & MEMORY REQUIREMENTS

All Memory usage is given in units of byte.

Function	MIPS Peak loading	Program Memory	Data Memory	Scratch	Per-Channel Data Memory
Decode	28	201.8 KB	7.46 KB	3004	2176

Windows DLL

WIN32

CPU UTILIZATION & MEMORY REQUIREMENTS

All Memory usage is given in units of bytes.

Function	MIPS (average)	Program Memory	Data Memory	Scratch Memory	Per Channel Data Memory
Encode	229	-	-	2280	7244
Decode	57	-	-	3004	2180
Encode/Decode	306	357 KB	41 KB	-	-

FUNCTIONS

API function call summary

<code>EVR_CB_ADT_encInit()</code>	Initialize a encode channel
<code>EVR_CB_ADT_Encode()</code>	Perform EVRCB encode
<code>EVR_CB_ADT_decInit()</code>	Initialize a decode channel
<code>EVR_CB_ADT_Decode()</code>	Perform EVRCB decode

Deliverables

The deliverable items are platform dependent. In general, there is one library. (Sometimes multiple variants of the library are included in the deliverables.) There are also header files, some of which are specific to the product and others are common across many of Adaptive Digital's products. Also included in the deliverables is product documentation, which includes a users guide and usually includes release notes and a data sheet. Sample/test code may be included as well.

Adaptive Digital is a member of the Texas Instruments Developer Network, and ARM Connected Community.

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