

SPIRIT G.729AB Codec

SPIRIT G.729AB vocoder conforms to ITU-T G.729 Annex A & Annex B recommendation and can be effectively used in a wide range of applications for simultaneous voice and data transmission, especially in telephony over packet networks.

Features

- Fully bit exact with ITU-T G.729 AB
- 8 Kbps encoded bit stream rate
- Discontinuous transmission support (DTX) using Voice Activity Detection (VAD) and Comfort Noise Generation (CNG)
- Input/output samples format: Linear PCM, 8 kHz, 16 bits. Block based processing supported
- Very simple application interface
- eXpressDSP compliant. Code is reentrant, supports multithreading and dynamic memory allocation

Specifications

SPIRIT provides porting services to multiple DSP (Motorola, Analog Devices, etc), RISC and general-purpose processors

PLATFORM	TI C54xx		
	Encoder	Decoder	Encoder+Decoder
Peak MIPS	11.3	2.7	14.0
Program Memory, KB	22	9.8	27
Const Memory, KB	6	5.2	6
Dynamic Memory, KB	2	1.7	3.7

PLATFORM	TI C55xx		
	Encoder	Decoder	Encoder+Decoder
Peak MIPS	8.75	2.13	10.88
Program Memory, KB	25	25	25
Constant Memory, KB	6	5.2	6
Dynamic Memory, KB	2	1.7	3.7

PLATFORM	TI C64xx (TI C64+)	
	A (Encoder / Decoder / Encoder + Decoder)	AB(Encoder / Decoder / Encoder + Decoder)
Peak MIPS	5.67 / 1.63 / 7.30	5.4 (4.7) / 1.6 (1.4) / 7 (6.1)
Program Memory, KB	74.8	74.8
Constant Memory, KB	6.3	6.3
Dynamic Memory, KB	3.3	3.3
Scratch Memory, KB	1.6	1.6

Benefits

- Highly optimized code ideal for resource constrained applications
- Easy integration and fast time-to-market

Applications

- VoIP gateways
- Communication devices
- IP-PBX
- VoIP clients
- Voice over 3G
- Voice over WiFi

Availability

- TI OMAP3
- Tensilica HiFi2
- eXpressDSP compliant object code for TMS320C54xx
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- eXpressDSP compliant object code for TMS320C64xx
- Object code for ARM9/9E
- Object code for MIPS4000
- Fully functional evaluation object code (available upon request)
- DLL for MS Windows

PLATFORM	MIPS4000		
	Encoder	Decoder	Encoder+Decoder
Peak MIPS	22.9	5.5	28.4

PLATFORM	ARM9	ARM9E	Tensilica HiFi2
	Encoder+Decoder	Encoder+Decoder	Encoder+Decoder
MIPS, MHz	29.49	19.56	13.6
Code size, KB	41.4	39.6	37.3
Constant Memory, KB	5.9	6.0	5.94
Dynamic Memory, KB per channel	7.7	7.7	8.1
Stack, KB	1.19	1.19	

PLATFORM	PC		
	Encoder	Decoder	Encoder+Decoder
Peak MIPS	55.0	30.8	85.5
Program Memory, KB	46.4	46.4	46.4
Constant Memory, KB	6.0	6.0	6.0
Dynamic Memory, KB	3.9	1.9	5.8
Scratch Memory, KB	1.96	0.24	1.96

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