

SPiRiT iLBC Speech Codec

SPiRiT iLBC is a speech codec suitable for robust voice communication over IP networks. It is designed for narrowband speech and results in a payload bit rate of 13.33 kbps for 30 ms frames and 15.20 kbps for 20 ms frames. The codec enables graceful speech quality degradation in the case of lost frames, which occurs in connection with lost or delayed IP packets.

Application areas for iLBC codec include telephony, videoconferencing, audio streaming, speech archival, voice messaging and more.

Features

- Operates at 13.3 / 15.2 kbps bitrate
- Frame size 30 ms for 13.3kbps, and 20 ms for 15.2kbps
- Voice quality exceeds G.729A and G.723.1
- High robustness to packet loss
- Low delay and high packet loss robustness for low-bit rate codecs
- Start state encoding
- Pitch enhancement
- Packet loss concealment

Benefits

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

Applications

- Telephony
- Videoconferencing
- VoIP communication

Availability

- Object code
- Fully functional evaluation object code (available upon request)
- DLL for MS Windows
- TI OMAP3
- Tensilica HiFi2

Resource Requirements

PLATFORM	TI C64xx			
	Encoder		Encoder	
	15.2 kbps	15.2 kbps	15.2 kbps	15.2 kbps
Peak MIPS	5.98	6.80	1.96	1.89
Program Memory, KB	104.64			
Const Memory, KB	10.6			
Dynamic Memory, KB, per channel	0.732	0.205	0.732	0.205
Scratch, KB	4.4			
Stack, KB	0.4			

PLATFORM	ARM9	ARM9E	Tensilica HiFi2
	Encoder/Decoder	Encoder/Decoder	Encoder+Decoder
Peak MIPS	48.3/17.1	27.67/11.75	31
Program Memory, KB	~ 35	~ 35	32
Const Memory, KB	10.6	10.6	11
Dynamic Memory, KB, per channel	0.732/0.732	0.732/0.732	3
Scratch, KB	4.4	4.4	5
Stack, KB	0.4	0.4	-

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