

G728 on TMS320C64X+ Version 2.00

Release Notes

January 2012

ITU-T G.728 is low delay speech coder standard, for compressing toll quality speech (8000 samples/second). G.728 Annex G (G.728 G) is a fixed point specification of the coder working at a bit rate of 16000 bits/second. G.728 Annex I (G.728 I) is the packet loss concealment (PLC) technique used along with G.728 G. G.728 coders are widely used for applications that require very low algorithmic delay. The typical application of this speech coder is in telephony over packet networks, especially voice over cable and VoIP. This is a very robust speech coder, with very good speech quality, comparable to 32 kbit/s ADPCM. G.728 coders are based on the principle of Low Delay-Code Excited Linear Prediction (LD-CELP). This coder has the conventional approach of analysis-by-synthesis for fixed codebook search, which is generally available in all CELP class coders. The low algorithmic delay of the coder is achieved using backward adaptation of predictors and gain. Though the algorithmic delay can be as low as 0.625 msec (5 samples), the frame size of the coder is 2.5 msec (20 samples).

Salient features of this product are described below.

- eXpressDSP™/xDM compliant
- The code is bit exact with ITU-T G728 reference test vectors specified in ITU-T, G728 Annex G
- This code supports Annex I (packet loss concealment) for G728.
- Fully validated on TMS320C6455 DSK, using CCS version 4.2 with the code generation tools version 7.2.0A10197
- This release supports Little Endian Mode of operation
- Supports frame size in multiples of 2.5ms upto a maximum of 10ms
- The G728 Codec has an Interrupt Latency of 6000 cycles (~ 10µsec @ 600 MHz)
- Supports both ELF and COFF formats
- This codec can be used on any of the C6x based platforms such as DM644x, DM646x, OMAP3530, DM648, C6455, C674x, C64x+ and C66x.

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1 New In This Release

- Added ELF support
- Validated both ELF and COFF libraries on TMS320C6455 DSK, using Code Composer Studio 4.2 and Code Generation Tools version 7.2.0A10197.

2 System Requirements

Refer to section 1.1.2 of G728_XDAIS_UserManual_c64x+.doc

3 Building G728 on TMS320C64X+

Refer to chapter 2 of G728_XDAIS_UserManual_c64x+.doc

4 Release Contents

Refer to chapter 2 of G728_XDAIS_UserManual_c64x+.doc

5 Fixed In This Release

- None

6 Known Issues

- None