



Processor

Motorola DSP56300 range.

Background

The algorithm implemented is the ITU-T recommendation G.711 audio coder. The encoder compresses linear narrowband audio input data, at a sample rate of 8kHz, to a data rate of 64 000 bps, using non-linear quantisation. G.711 is a simple algorithm, using two selectable logarithmic coding laws, A-law (European standard) and μ -law (US standard).

G.711 is the mandatory minimum standard for all ISDN terminal equipment.

Features and Performance

- Less than 100 words of program memory required.

G.711	Program Memory		X Data Memory		Y Data Memory		Processing Load (MHz)
	Code (words)	Tables (words)	Variables (words)	Tables (words)	Variables (words)	Tables (words)	
Encoder	62	0	0	0	0	0	n* 0.2
Decoder	34	256	0	0	0	256	n* 0.14
Encoder + Decoder	96	256	0	0	0	256	n* 0.34

Table 1 : DSP Requirements for G.711

Note: The specified program memory sizes include both A-law and μ -law.
Processing loads quote worst-case scenarios with n representing the number of channels.
Program memory table values are initialisation values. 1 word equals 24 bits.

Technical Notes

G.711 is often used at rates less than 64 000 bps, namely 56 000 and 48 000 bps, with a slight reduction in speech quality. This allows an 8 000 bps or 16 000 bps auxiliary data channel.

Interface Details

For convenience the individual software functions are supplied as a single library module. The library contains all the object code that is required to link in to a user's top-level application code.

Availability

Fully optimised code is available now, for a one-off payment and/or royalties depending on the commercial application.

Also available for DSP56300 are a full range of vocoders including G.722, G.726, G.728, G.729, G.729A, G.729B, G.729AB and other communication algorithms.

SIGNALS+SOFTWARE

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