



## GAO Research Inc. G.723.1 Vocoder software

GAO Research Inc.

*#1 In Embedded Communications Software*

<http://www.gaoresearch.com>

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### Features

- ▶ Operates at 6.3 Kbps and 5.3 Kbps.
- ▶ Includes Silence Compression Scheme and Voice Activity Detection (VAD).
- ▶ Processing frame size and input/output formats are user selectable.
- ▶ Provides a compression ratio of up to 12:1.

### Product Description

GAO's G.723.1 dual rate speech coder performs compression and decompression of 8 kHz speech signals. It encodes 16 or 13-bit PCM samples into 16-bit code-words yielding 10 or 12 code-words per 240 sample frames for the 5.3 Kbps and 6.3 Kbps channels respectively. GAO's G.723.1 software has switchable transmission rates over 5.3 or 6.3 Kbps channels providing 4 kHz of quality speech bandwidth in conformance with the ITU standard. The higher bit rate has greater quality. The lower bit rate gives good quality and provides system designers with additional flexibility.

The ITU G.723.1 standard specifies a coded representation that can be used for compressing the speech or other audio signal component of multimedia services at a very low bit rate as part of the overall H.324 family of standards. This coder was optimized to represent high quality speech at the above rates using a limited amount of complexity. It encodes speech or other audio signals in frames using linear predictive analysis-by-synthesis coding. The excitation signal for the high rate coder is Multipulse Maximum Likelihood Quantization (MP-MLQ) and for the low rate coder is Algebraic-Code-Excited Linear-Prediction (ACELP).

### Leadership in Embedded Communications Software

With over a decade of experience, GAO leads the embedded communications software market by providing comprehensive modem, fax, speech, and telephony technologies; broad technical expertise; and unsurpassed support to our world-class customers including electronics, communications, and semiconductor companies across the globe. GAO's software integrates easily with MP3, MPEG, TCP/IP, and most popular real-time operating systems.

### Rigorous Testing

GAO's testing facilities are equipped with state-of-the-art test equipment. Our software is rigorously tested on TAS, Consultronics, Rochelle, Advent and Telegra equipment under various channel models according to the relevant ITU or TIA standards. All GAO's speech software has passed the test vectors specified by the ITU. Our telephony software meets all appropriate TIA, EIA, BellCore, and Mitel standards. GAO also adheres to stringent quality control procedures, which is reflected in our well structured code, detailed design documentation, and well-defined design and test plans.

### Contact Information

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