



GAO Research Inc.

G.729 & G.729A/B Vocoder

**GAO Research Inc.**

*#1 In Embedded Communications Software*

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### **Features**

- ▶ Compresses 8 kHz CODEC or linear audio data to 8 kbps.
- ▶ Operates on 10ms frames with short algorithm delays.
- ▶ Short-term synthesis filter is based on a 10<sup>th</sup> order Linear Prediction (LP) filter.
- ▶ Long-term, or pitch synthesis, filter is implemented using the adaptive-code book approach.

### **Product Description**

GAO's G.729 & G.729A vocoders provide toll-quality speech with only moderate processing requirements and delay times. They also perform well in the presence of random bit errors. The ITU G.729 & G.729A standards are based on Code Excited Linear Prediction Model (CELP) and Conjugate-Structure Algebraic CELP (CS-CELP). Some applications for GAO's G.729 & G.729A vocoders include visual telephony, wireless communications, and digital satellite communication systems.

The ITU G.729 standard offers superior bandwidth utilization making it an excellent alternative to applications that formerly used 32 Kbps ADPCM.

The G.729A ITU standard for voice coding compresses 8 kHz linear audio signals and encodes them for transmission at 8 Kbps with reduced complexity compared to G.729.

The ITU G.729B/G.729AB is a silence compression scheme for G.729/G.729A optimized for terminals conforming to Recommendation V.70.

### **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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