



**GAO Research Inc.**

*#1 In Embedded Communications Software*

**GAO Research Inc.  
Acoustic Echo Cancellation  
Software (AEC)**

<http://www.gaoresearch.com>

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## **Features**

- ▶ Implemented in assembly or C.
- ▶ User-callable functions.
- ▶ Low data memory, program memory, and computational requirements.
- ▶ Robust double-talk detection.
- ▶ High-performance full duplex operation.
- ▶ High signal to noise ratio.
- ▶ Robust design delivers consistent results.
- ▶ Automatic Gain Control

## **Product Description**

GAO's AEC software is an acoustic echo canceller that eliminates one of the biggest problems with hands-free speaker phones: acoustical echoes.

The memory and MIPS requirements of an acoustical echo canceller depend on the maximum duration of all possible echoes. The longer the duration of an echo the more MIPS and memory required to resolve the problem. Echo with a duration of 80 ms may be generated by a room with 4 meters by 4 meters of hard wall. To cancel such an echo, GAO's AEC needs about 16 MIPS, 1 Kword of data memory, and 1.5 Kwords of program memory of a DSP.

## **Leadership in Embedded Communications Software**

With nearly two decades 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 modem and fax 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. This ensures ease of integration into the customer's system, easy maintenance, and a smooth upgrade path for next-generation customer products.

## **GAO Research Inc.**

601 Milner Avenue, Suite 300  
Toronto, Ontario M1B 1M8 Canada

**Tel:** 1-(416) 292-0038

**Fax:** 1-(416) 292-2364

**E-mail:** [info@gaoresearch.com](mailto:info@gaoresearch.com)

**Web:** <http://www.gaoresearch.com>