



## COMMETREX 8 KBPS CS-ACELP speech codec for the TMS320C6000

Commetrex' 60095-2 speech codec is a resource-efficient implementation of the ITU G.729a/b on the Texas Instruments TMS32C6000 family of DSPs. G.729a/b is widely deployed in conferencing systems and PSTN-IP gateways where high-quality speech and low-bandwidth utilization are requirements.

G.729 specifies a coding scheme that compresses 64-KBPS PCM speech to 8-KBPS using a conjugate structure algebraic-code-excited linear-prediction (CS-ACELP) algorithm. The coder is designed to process frames of 80 samples, or 10-milliseconds of speech data. A 5-millisecond "look ahead" is required, so the total delay is 15-milliseconds. G.729A is a reduced-complexity version of G.729. Since complexity reduction is due to internal computational simplifications, G.729 and G.729 Annex A are bit-by-bit interoperable. 60095-2 also includes the voice-activity detection and silence removal (VAD) and comfort-noise generation (CNG) specified in G.729 Annex B, hence G.729a/b.

60095-2A is Texas Instruments eXpress DSP Compliant. See [http://dspvillage.ti.com/docs/express\\_dsp/expressdsphome.jhtml](http://dspvillage.ti.com/docs/express_dsp/expressdsphome.jhtml)). The 60095-2B conforms to the MSP Consortium M.100 specification (<http://www.msp.org>), so it is compatible with any MSP-conforming media-processing system.

### Features

- Low resource utilization
- C-callable interface
- Does not disable interrupts
- TMS320DSP Algorithm Standard compliant
- MSP Consortium M.100 compatible

### Benefits

- High densities
- Low power
- Low implementation cost

### 'C64xx Resource Utilization

Encoder: 7.41 MCPS (with VAD)  
 Decoder: 2.12 MCPS (with CNG)  
 Program Memory (full duplex): 74,656 bytes  
 Tables: 8,928 bytes  
 Per-Instance Memory:  
     Encoder: 1984 bytes  
     Decoder: 1680 bytes

### License Options

Limited-Use Paid-Up Source Code  
 Royalty with Reduced Up-Front  
 Object Code with Runtime Licenses

### Ordering Information

60095-2A G.729a/b for the TI TMS320C6000 XDAIS package

60095-2B G.729a/b for the MSP Consortium M.100 package

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