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KEY FEATURES

- ▶ Compresses 8 kHz codec or linear voice data to 16, 24, 32, and 40 kbps
- ▶ Complies with G.726 coding standard; verified with the G.726 test vector to guarantee inter-operability with other G.726 coders
- ▶ Toll quality at 24 kbps or higher

Description

Virata's G.726 ADPCM voice coder algorithm module implements the ITU-T G.726 voice coder standard. It compresses codec or linear data to 16, 24, 32, and 40 kbps code using an ADPCM algorithm.

Designed to the vCore interface, the G.726 voice coder module easily integrates with other vCore modules, runs in real-time concurrently with other vCore modules, and handles any number of voice ports assigned to the DSP. Like all of Virata's algorithm modules, the G.726 voice coders consists of robust software that is rigorously tested.

System Considerations

The vCore architecture places minimal constraints on the underlying hardware and can accommodate a wide variety of systems. No specific TMS320 peripheral devices are required. The host, voice data input and output, memory allocation, and module to module communication interfaces must conform to vCore as described in the vCore Software Interface Specification.

Processor Resources Required

TMS320C54x

- Program Size
linear: 1.8 words
PCM: 3.6 words
- Per-Channel Memory:
58 words for both linear or PCM

- Processor Loading
Linear encode: 4.1 MIPS
Linear decode: 3.7 MIPS
PCM encode: 4.1 MIPS
PCM decode: 4.5 MIPS

Algorithm Verification

Virata's G.726 algorithm module is validated through the following suite of tests:

- ITU G.726 test vectors - includes test sequences of voice data and other test signals under consideration
- Numerical stability tests with tones and extreme values
- Numerical Code error test with stationary and non-stationary errors
- Numerical Mean Opinion Scores (MOS) test according to ITU-T P.80 specification for Absolute Category Rating
- Numerical vCore interface validation — Virata's G.726 module is integrated with other vCore modules and tested in real-time

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G726ADPCMVCODER_A0901v19

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