Conexant launches high-definition voice capture IC

Clive Maxfield - January 06, 2013

The folks at Conexant Systems have announced the CX20810, their new high-performance, high-definition voice capture IC targeted to voice interactive products, voice conferencing systems, Skype TV/STB webcam, and surveillance.

The CX20810 is the industry’s first high-performance audio analog to digital converter (ADC) with pre-amp, which maximizes the signal-to-noise ratio of a microphone’s input path with a constant, low gain across a long range (up to five meters).

This latest offering from Conexant complements its portfolio of turnkey Far-Field Voice Input Processor SoC solutions. For designers with existing systems running voice processing algorithms, the CX20810 helps them unleash the system’s true performance potential.

Traditional microphone ADCs with limited dynamic range require dynamic adjustment of the PGA gain to avoid either saturation of the speech signal, or degradation of its SNR due to the high ADC self-noise floor. Addressing this issue, the CX20810 has a significant dynamic range of 106dB and maximizes the signal quality to avoid saturation while maintaining the SNR from the microphone. When used in an acoustic echo cancellation (AEC) system, the CX20810 maintains the SNR of a low-level voice signal while avoiding echo saturation and therefore captures the full scale speech signal without the saturation caused by high echo feedback.

“There are a broad range of voice interactive and audio capturing devices entering the consumer electronics market,” noted Saleel Awsare, vice president and general manager, Conexant. “In light of this, designers must carefully select the A to D converter that best matches their particular system in order to deliver the intended user experience. Our new high-performance audio ADC with pre-amp removes system bottlenecks and eliminates audio signal artifacts caused by saturation.”

Conexant’s CX20810 features high resolution digital and analog gain control over a wide range - allowing for the selection of an optimum operating point for microphones with a wide range of sensitivity. A smooth gain ramping circuit enables the dynamic adjustment of microphone gain. The CX20810 supports a microphone array with up to four synchronized ADCs and programmable preamplifiers, each with a dedicated microphone bias supply to eliminate crosstalk.

Key features include:

- First far-field audio input class microphone ADC
- 106dB dynamic range full path
- Internal bi-quad for noise filtering and mic array matching
• Low power 5uA stand-by
• 122dBV input referred noise
• Optional 1 Watt @ 4ohm Class D amplifier/ Digital PWM output available on CX20811 and CX20813.

EVKs are currently available to qualified customers and partners for $199.00. Pricing starts at $0.90 each in 10K quantities.

CX20810 information page


Find more datasheets on products like this one at Datasheets.com, searchable by category, part #, description, manufacturer, and more.

This article originally appeared on EE Times.