

LTC News for Immediate Release

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**8-Channel, 24-Bit Delta Sigma ADC Includes
Five Differential Reference Inputs**

MILPITAS, CA – October 21, 2004 – Linear Technology Corporation introduces the LTC2447, a high accuracy, variable speed/resolution 24-bit Delta Sigma ADC that features a unique multiplexing architecture to directly digitize multiple ratiometric sensors. Four differential inputs, coupled with four differential reference inputs, allow ratiometric measurements of multiple RTDs, bridges and pressure sensors. A fifth differential reference can be shared by any or all inputs. This multiplexing architecture, combined with high accuracy and low drift, improve the performance while simplifying the analog front end of applications measuring temperature, pressure, flow, chromatography, weight, and general purpose data acquisition.

The LTC2447's flexible input multiplexer allows any combination of 8 single-ended or 4 differential inputs to be accurately digitized with either a dedicated reference input or a global reference input. The LTC2447's multiplexer outputs and ADC inputs are pinned out separately. This allows external signal chain components to be included within the calibration loop of the ADC, automatically removing offset and drift errors.

The fast 4kHz multiplexing rate combined with the patented No Latency Delta-Sigma™ architecture allows all 8-channels to be scanned in 2msec, without the filter settling problems inherent in other delta sigma converters. The LTC2447's programmable filter enables designers to tailor twenty different speed/resolution combinations to individual channels. For low output rate applications, the ADC provides 200nV_{RMS} noise, which is equivalent to 500,000 counts on a ±50mV sensor output (or 25 million counts on a full scale input) and simultaneous 50Hz and 60Hz line frequency noise rejection. At its fastest output rate, 8kHz, the ADC provides over 17 effective bits.

For applications not requiring the signal chain calibration feature, the pin-compatible LTC2446 is available. The LTC2446/LTC2447 are offered in a 38-pin 5mm x 7mm QFN package, screened for industrial and commercial temperature ranges.

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Pricing starts at \$7.15 each for the LTC2446 and \$7.15 each for the LTC2447 each in 1,000-piece quantities.

Summary of Features: LTC2446/LTC2447

- LTC2447 – 24-Bit Delta Sigma ADC with Automatic Signal Chain Calibration
- LTC2446 – 24-Bit Delta Sigma ADC
- Five Differential Reference Inputs
- 4-Channel Differential/8-Channel Single Ended Inputs
- 6.9Hz Output Rate, 200nV_{RMS} Noise, Simultaneous 50/60Hz Rejection
- 3.5µV_{RMS} Noise at 1.76kHz Output Rate
- Up to 8kHz Output Rate
- 5ppm INL, No Missing Codes
- 2.5µV Offset Error
- Transparent Auto Calibration on Input Signal Chain Components
- Single Cycle Settling – Eliminates Digital Filter Setting Woes
- Internal Oscillator – No External Components Required
- Single 5V Supply Operation
- Tiny 38-Pin 5mm x 7mm QFN Package

COMPANY BACKGROUND: Linear Technology Corporation was founded in 1981 as a manufacturer of high performance linear integrated circuits. Linear Technology products include high performance amplifiers, comparators, voltage references, monolithic filters, linear regulators, DC-DC converters, battery chargers, data converters, communications interface circuits, RF signal conditioning circuits, and many other analog functions. Applications for Linear Technology's high performance circuits include telecommunications, cellular telephones, networking products such as optical switches, notebook and desktop computers, computer peripherals, video/multimedia, industrial instrumentation, security monitoring devices, high-end consumer products such as digital cameras and MP3 players, complex medical devices, automotive electronics, factory automation, process control, and military and space systems.

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READER SERVICE: Call toll-free 1-800-4-LINEAR (for literature only), or go to the company's web site: <http://www.linear.com>

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