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Low-power DACs target portables

By Jeff Berman, News Editor -- 7/26/2005

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Analog Devices has introduced the fourth generation of its TxDAC digital-to-analog converter, claiming the new AD970X family provides engineers with significant power savings while maintaining pin compatibility with predecessor devices.

The family includes four members—the 14-bit AD9704, 12-bit AD9706, 10-bit AD9705, and 8-bit AD9707—that suit communications, industrial-instrumentation, and portable applications requiring high-speed performance along with low power consumption, according to the company.

The DACs reduce power consumption by up to 70% compared with the previous TxDAC generations and up to 50% compared with competing products under equivalent operating conditions, according to Analog Devices. These savings make the devices suitable for processing broadband signals in applications from handheld radios to portable instruments, the company said.

The DACs support update rates of 175M samples/sec and employ a common-mode-shift capability, said Chuck Millet, business manager for Analog's high-speed group. "With a common-mode shift, you can have a direct interface to other common analog components," he said.

The family offers power consumption in the 20- to 50-mW range, which competitors like Texas Instruments and Maxim cannot match at equivalent update rates with their offerings, Millet said.

The family maintains the performance of its predecessor, the AD9744, with SFDR of 86dBc and an IMB (intermodulation) of 70 to 50 MHz, according to the company.

"In cases where power is important, such as battery-powered applications or applications with multiple parts, this [platform] is a real benefit," said Morry Marshall, vice president of strategic technologies at Semico Research.

The AD970x devices, which come in either a 28-lead TSSOP (thin shrink small outline plastic package) or a 32-lead LFCSP (lead-frame chip scale package), are currently sampling and will be available in production quantities in October. Pricing ranges from \$2.75 to \$5.75 (1000).

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