

## **FOR IMMEDIATE RELEASE**

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### **160 MHz Digitizer Delivers 16-bit Resolution Enabled by Xilinx Virtex FPGAs Optimized for Embedded Processing and Serial Connectivity**

**Newport Beach, California – June 20, 2008** – Signatec Inc. today announced the PDA16 high-speed digitizer, the industry's most advanced wideband and high dynamic range A/D boards with FPGA processing. Designed to meet demanding high-speed data acquisition, signal data recording and real-time FPGA processing applications, the PDA16 leverages the processing performance of Xilinx® Virtex FPGAs with embedded PowerPC processors. As a Xilinx Alliance Program™ partner, Signatec can create customized development tools for users to perform real-time processing on digitized, high-speed, high-resolution signal data.

With 512 MB of on-board memory configured as a large FIFO and a 64-bit PCI-X bus, Signatec's PDA16 can continuously sustain up to two channels recording at 160 MSPS per channel and transfer the digitized and/or processed data to PC disk storage at rates up to 640 MB/s non-stop without any break in the analog record. Furthermore, the PDA16's ultra-wide bandwidth capacity of up to 500 MHz allows users to accurately capture frequencies in baseband or in much higher-order Nyquist zones using under-sampling techniques.

"The PDA16's advanced performance, high degree of flexibility and scalability continues to exemplify Signatec's commitment to its customers, especially those facing tight budgets and development timelines to get new products to market," said Chuck Tralka, senior director of Virtex product marketing at Xilinx. "By relying on the Virtex-4 FPGA family to deliver embedded processing and serial transceiver capabilities, combined with Signatec's growing suite of development libraries for FPGA programming, Signatec delivers exceptional value for engineers in the aerospace, defense and intelligence communities."

The PDA16 comes with either a Virtex-4 FX20 (one immersed IBM PowerPC 405 processor) or an FX60 FPGA, (two immersed IBM PowerPC 405 processors). These industry standard processors offer high performance and a broad range of third-party support. Using the Virtex-4 FX FPGA's Auxiliary Processor Unit (APU) controller, designers can simplify the integration of hardware accelerators and co-processors. The Virtex-4 FPGAs also come equipped with 12 to 16 RocketIO™ serial transceivers, each providing 622 Mbps to 6.5 Gbps, full duplex operation.

"Signatec's PDA16 is one of the highest-performance digitizers available on the market today," said Anthony Hunt, Chief Technology Officer for Signatec, Inc. "Users can stream the two synchronized wideband, high-resolution A/D channels directly to Signatec's high-speed RAID storage systems or into the high-performance Xilinx Virtex-4 FX FPGA with embedded programs such as FFTs, FIRs, DDC and channelization to process their signal data in real-time."

#### **Maximized Signal Quality and Bandwidth**

The PDA16 was designed to maximize the quality of captured signals in terms of signal-to-noise ratio (SNR) and spurious-free dynamic range (SFDR) over a very wide frequency range. When utilizing the transformer-coupled inputs to the ADC, 100 dB SFDR performance levels for input frequencies over 100 MHz are obtainable and most input frequencies from 5 MHz to 200 MHz are 87 dB or better for SFDR.

#### **Precise Sampling Rate Flexibility**

Beyond its high-speed, multi-channel, high-resolution performance capabilities, the PDA16 offers users a very accurate synthesized clock to tune ADC sampling rates to any clock up to 125 MHz, and most other frequencies up to 160 MHz. This frequency selection flexibility comes at no cost

to the acquisition clock quality/performance when locked to either the onboard 10 MHz, 5 PPM reference clock or to an externally provided 10 MHz reference clock.

This level of accurate clock tuning without sacrificing performance gives the best integrated onboard ADC clock flexibility in the industry. Users no longer need to settle for fixed clocks or limiting divide-by-2 clocks. This feature is ideal for undersampling applications, where the Nyquist bands need to be perfectly tuned to optimally place the center frequency of the sampled signal into the middle of the Nyquist zone and to optimize for the total bandwidth or data captured. In addition to the onboard clock capabilities, the ADC may also be clocked from an external clock source.

Up to four PDA16 boards may be interconnected in the standard Master/Slave configuration via a ribbon cable that connects at the top of the board. In this configuration, the clock and trigger signals from the master board drives the slave boards so that data sampling on all boards occurs simultaneously. Greater synchronization and scalability can be achieved with separate clock/trigger board modules that expand the synchronized clock and trigger signals to much higher counts allowing for up to 64 board systems.

### **Pricing and Availability**

Signatec's PDA16 is currently shipping. For the latest pricing and availability information, please contact Tom Wagner by email at [twagner@signatec.com](mailto:twagner@signatec.com).

### **About the Xilinx Alliance Program**

The Xilinx Alliance Program is composed of companies with the best available technologies in the areas of IP cores, EDA, DSP, and embedded development tools, as well as design services, board-level products, integrated circuits, and electronic components. Participating companies provide optimized products and services that contribute to a broad selection of industry-standard solutions dedicated for use with Xilinx FPGAs.

### **About Signatec, Inc.**

Delivering advanced system solutions since 1988, Signatec is a leading designer and manufacturer of high-speed data acquisition, parallel digital signal processing, continuous signal data recording and arbitrary waveform generation systems. Signatec differentiates itself by being one of the only single-source suppliers that works with its customers to build affordable, real-time signal technology systems for advanced radar, SIGINT, ultrasound, imaging and other high-speed communications systems. For more information, visit Signatec online at [www.signatec.com](http://www.signatec.com)