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Exar claims industry's first multi-channel 66MHz PCI 3.0 compliant UART

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The manufacturer says...	Steve Ohr has these observations
<p>Fremont, California " Exar Corporation (Nasdaq: EXAR), a leading provider of high-performance, mixed-signal silicon solutions for the worldwide communications infrastructure, today announced the industry's first multi-channel 66MHz PCI 3.0 compliant Universal Asynchronous Receiver Transmitter (UART) product family.</p> <p>Recognizing the growing market adoption of higher speed interconnects, Exar leveraged its already extensive product portfolio and seasoned understanding of, and connections to, customer design requirements to develop the XR17V25x family [where "x" stands for the number of channels]. Targeting the computer and telecom server market, the 66MHz PCI provides an ideal solution for system management and administration of applications where continuous redundancy and Quality of Service at higher bus clock speeds are critical. The 66MHz portfolio is ideal for remote access servers, storage, instrumentation, serial port expansion, embedded systems, factory automation and process control.</p> <p>"The serial port is still the easiest and most reliable connection used for system configuration, diagnostics and alarm functions," said Levent Ozcolak, acting general manager, Interface Products Division. "While much attention is devoted to faster bus technologies such as PCI Express, there remains a large installed base of conventional PCI interface users. Here, Exar continues to demonstrate its product innovation and commitment as a leading supplier of interface products enabling designers to develop current and future generations of communication product solutions."</p> <p>Optimized for both higher performance and lower power, the XR17V25x products provide a direct interface to the PCI bus eliminating the need for a PCI-Local bus bridge, reducing system cost and board space requirements.</p> <p>"As demand for bandwidth and speed continues to grow, the XR17V25x family enables customers to respond to rapidly changing market conditions, while minimizing risk</p>	<p>Among analog building blocks, it is very often the "bread-and-butter" items that prove to be most useful. The Universal Asynchronous Receiver/Transmitter (UART) may lack some of the drama of a 24-bit analog-to-digital converter or a GHz op amp, but it provides a consistently reliable means of moving data from one place to another.</p> <p>Asynchronous transmission allows data to be transmitted without the sender having to send a clock signal to the receiver. Instead, a "start bit" at the beginning of each word is enough to cue the receiver that a word of data is about to be sent, and to synchronize the receiver's clock with that of the transmitter. Thus, it forms the heart of many popular data communications interfaces (like RS232, RS422 and RS485), telecommunications modems and a wide variety of CPU peripherals.</p> <p>Connection: Cable, Infrared, RF Wireless</p> <p>Click to enlarge</p> <p>In Exar's latest implementation, the UARTs are targeted at telecommunications servers and point-of-sale terminals. The XR17V258 UART devices will support 66-MHz PCI bus interfaces - up to 8 channels with 32-bit data. The transmitter and receivers feature programmable trigger levels, and a fractional baud rate generator (BRG) gives the devices utility in legacy and lower frequency systems.</p> <p>The focus on communications interface components has</p>



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and uncertainty," said Rita Horner, strategic marketing manager, Interface Products Division. "The XR17V25x provides a seamless migration path for the existing 33MHz PCI interface product users."

Product Details

First in the series of single chip multi-channel 66MHz devices is the eight-channel XR17V258. The device features 3.3V supply, fractional Baud Rate Generator, PCI Bus Power Management 1.1 support, 16-bit programmable timer/counter, and 32-bit of data loading and unloading. It is register-set, package and pin compatible with Exar's existing 33MHz XR17C158 (5V) and XR17D158 (Universal) PCI UART devices.

The XR17V258 consists of eight independent UART channels with 64 bytes of Transmit (TX) and Receive (RX) FIFOs and a global interrupt source register for faster interrupt parsing of all the channels within the device. In addition to the fifth generation set of configuration registers, the 66MHz device has new enhanced registers, and meets the high bandwidth and power management requirements of communication systems. Each UART channel includes a fully programmable TX and RX FIFO level triggers, FIFO level counters, an automatic hardware and software flow control, wireless infrared (IrDA) encoder/decoder, and an automatic RS-485 half-duplex direction control output for hardware and software design simplification. The XR17V258 also offers sleep mode with wake-up indicator feature that allows for lower power consumption.

Tools and Support

The XR17V25x series is supported by Exar's market proven PCI software drivers that support leading operating systems. With the availability of software drivers and Exar's application support line, PCI UART customers can accelerate their time to market by eliminating driver development, testing and diagnostic procedures.

Prices, Packages and Availability

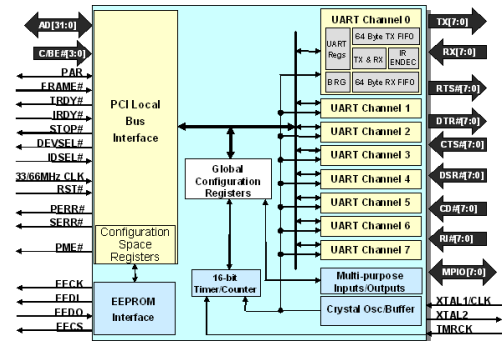
The eight-channel device, XR17V258 is offered in a 144-pin TQFP package, and is priced at \$26 in 1,000 pieces quantities. The device is available for sampling now. Additional multi-channel devices in this product family will be offered later this year.

More information is available at [the company's website](#).

been a good strategy for Exar. Its 2004 revenues were \$67.2. The company remains profitable, though it has company in the UART market. Competitors include Maxim and National Semiconductor. UARTs make up the largest segment of the interface component market (which includes discrete logic and bus drivers), which will grow to \$3.6 billion in 2007 according to market researcher Databeans Inc. (Reno, NV).

Exar claims it introduced the first single, dual and quad UARTs to incorporate 128-byte transmit and receive FIFOs (16C850 series), the first dual UART with automatic RS-485 half duplex direction control (16C850 series), the first 8-channel 5V PCI Bus Target compliant UART with 5th generation register set comparable to 16C550. Its currently introduced XR17V258, the company says, is among the first 8-channel Universal, 3.3V and 5V, PCI Bus Target compliant UART.

Each UART channel includes three transmitters and five receivers, reminds Rita Horner, Exar's strategic marketing manager for interface products. Thus, the 8-channel part comes in a 144-pin TQFP package. Internally, a global interrupt source register tracks the interrupt status for all 8 channels.



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Horner says these parts (like the earlier 16C550) have what she calls "a fifth generation register set." For the user this means two things: First, that it is at least 32-bits deep (for capturing contemporary data streams). Second, that its data is accessible to multiple operating systems.

And the most important feature of an 8-channel, PCI-compliant part like this, Horner reminds, is "TTM" - fast time to market.

For the XR17V258 data sheet [click here](#).

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