



DIAMOND SYSTEMS CORPORATION

For Immediate Release
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DIAMOND SYSTEMS USHERS IN A NEW ERA IN MODULAR COMPUTING FOR STACKABLE SINGLE BOARD COMPUTER USERS

Lower costs, improved reliability and higher functional density provided by off-the-shelf I/O-intensive ETX-based solutions are now available to medium and high-volume OEMs

April 16, 2008. San Jose, California. Diamond Systems Corporation, a leading supplier of embedded computing solutions including highly integrated single board computers (SBCs) with on-board data acquisition and PC/104 I/O modules, today unveiled a new design methodology that reduces costs, reduces risk and simplifies designs for traditional users of stackable single board computers (SBCs). The new paradigm consists of off-the-shelf application-specific I/O-intensive computer-on-module (COM) carrier baseboards to be used with industry-standard off-the-shelf ETX CPUs. Using this approach, a two board “sandwich” (ETX CPU plus baseboard) provides a complete application solution which may have previously required three, four, five or more stackable I/O modules in addition to a CPU card. By using off-the-shelf industry standard ETX CPU modules, each baseboard supports a wide performance range of solutions – effectively an instant product line. The new approach offers significant advantages over traditional stacked solutions in addition to greatly reducing overall system size and costs. The approach enables a more reliable, rugged, and easier to assemble solution with reduced and simplified cabling.

Diamond Systems’ initial standard product offering in this new arena is Neptune, a rugged, I/O-rich high-integration EPIC single board computer. Neptune’s baseboard integrates the capabilities of five traditional PC/104 I/O modules into a single EPIC-sized board. Unlike baseboards offered by COM suppliers, Neptune is an off-the-shelf standard product intended for production deployment. Neptune’s baseboard serves as a reference design that Diamond Systems can use to create application-specific solutions meeting exact customers’ requirements. Based on proven Diamond Systems’ engineering building blocks, Diamond Systems will modify the baseboard design or design and manufacture a full custom baseboard for the OEM. Furthermore, Diamond Systems will integrate the baseboards with a wide performance range of ETX CPUs to deliver complete yet flexible, fully integrated solutions to the customer.

“Diamond Systems is proud to lead the broad embedded market into a new way of developing systems,” said Jonathan Miller, president of Diamond Systems. “Just as we helped popularize PC/104 by inventing the I/O needed to build real systems based on EBX SBCs and PC/104 CPUs, we are now enabling OEMs and integrators to deploy state-of-the-art COM technology without designing and manufacturing custom COM baseboards. Until now, COMs were only effective in high-volume markets for OEMs with board

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design expertise or OEMs willing to pay high NRE development fees to third parties. Diamond Systems I/O expertise and one-stop-shopping business model perfected in the PC/104 market now brings the benefits of COM-based solutions to the broad embedded SBC market.”

About the ETX-Based Baseboard

The ETX-based baseboard is a high-integration baseboard that has an ETX interface in order to accept a wide performance range of plug compatible CPU modules. It includes extensive I/O such as four USB 2.0 ports, EIDE hard drive interfaces including CompactFlash™ socket and IDE Flashdisk interface, 10/100 and Gigabit Ethernet controllers, six RS-232 serial ports (four with RS422/485 capability), AC'97 audio, and legacy keyboard and mouse interfaces and a PC/104-Plus expansion (PCI and ISA buses) interface.

Unlike other off-the-shelf baseboards, Diamond's baseboard offers optional advanced, comprehensive, integrated data acquisition capability with 32 single-ended (16 differential) analog inputs with 16-bit autocalibration A/D, 250KHz sample rate and 1024 sample buffer, four analog outputs with 12-bit D/A and 100KHz waveform output capability, 24 programmable digital I/O lines, 8 optically isolated digital inputs, 8 optically isolated digital outputs, and two counter/timers. The analog I/O circuitry supports both interrupt and DMA A/D transfers and uses an enhanced FIFO with programmable threshold for maximum flexibility and data reliability.

Unlike the typical ATX-style carrier boards that are large and require multiple input voltages, Diamond's baseboard is a true embedded carrier board that requires only a single input voltage. A wide input voltage range of 5-28V DC can be supported on the board, without requiring an external power supply, making it ideal for many industrial and vehicular applications. The baseboard packs all of the I/O and power circuitry into small form factors, such as the 4.5 x 6.5" (115mm x 165mm) EPIC 2.0 specification, or can be produced in a custom form factor.

About Diamond Systems

Founded in 1989, Diamond Systems was an early adopter of PC/104 technology and today is one of the leading worldwide suppliers of PC/104 I/O modules and highly integrated single board computers combining best-in-class data acquisition and CPU on a single board. Diamond Systems' extensive I/O product line includes A/D, D/A, digital I/O, serial communications, multifunction networking, and power supply modules. Diamond Systems also offers a full range of I/O intensive single board computer solutions including SBCs based on Computer-on-Modules (COMs) with carrier boards. Diamond Systems will customize a board or system to meet the needs of a particular application. Privately held, Diamond Systems is a global design, manufacturing, and support organization with U.S. headquarters in Mountain View, California, in the heart of Silicon Valley, and European headquarters located in Oberglatt, Switzerland.

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For more information visit www.diamondsystems.com or www.diamondsystems.ch. For telephone inquiries, call 1-800-36-PC104 (North America only) or +41 44 850 7002.

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