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ULTRA HIGH INTEGRATION EPIC SINGLE BOARD COMPUTER FEATURES A BROAD ARRAY OF REAL-WORLD I/O WITH FLEXIBLE CPU PERFORMANCE TO 1.4GHz

Diamond Systems' Neptune EPIC SBC incorporates five PC/104 I/O modules on a single board to reduce size, weight and cost compared to standard EPIC and EBX solutions for I/O-rich applications

February 26, 2008. Nuremberg, Germany. Diamond Systems Corporation, a leading supplier of PC/104 I/O modules and highly integrated single board computers (SBCs) with on-board data acquisition, today announced Neptune, the industry's highest integration and most scalable EPIC form factor Single Board Computer. Neptune uses a modular CPU architecture to offer an unusually wide processor performance range as well as to pack an unprecedented amount of I/O into a tiny 4.5" x 6.5" (115mm x 165mm) EPIC footprint. Incorporating the equivalent of five PC/104 I/O modules on a single board, Neptune is offered with processors ranging from 500MHz AMD Geode™ LX800 to 1.4GHz Intel® Pentium® M 738 CPU. The modular CPU approach also leads to easier product lifecycle management and gives OEMs and integrators a simple way to offer a complete family of products through a range of price-performance points with the same I/O baseline.

"With Neptune, designers can take advantage of a new level of I/O functional density, while improving flexibility and mitigating CPU and chipset obsolescence," said Jonathan Miller, President of Diamond Systems. "Increased functional density reduces board count, improves reliability, shrinks system volume, simplifies assembly and cabling, and reduces overall system cost. As performance needs change, OEMs can simply unplug the current CPU module and replace it with the new one. This greatly eases product updates and technology insertions, especially where time-consuming and expensive regulation processes such as FDA and FAA certification are involved."

Neptune utilizes a standard ETX module interface to support the CPU modules, with a choice of the following modules installed on the Neptune carrier board: 500MHz Geode LX 800, 1.0GHz Celeron® M 373, and 1.4GHz Pentium® M 738. Neptune includes extensive I/O such as four USB 2.0 ports, Serial ATA (S-ATA) and 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. Graphics engines drive independent CRT and LVDS flat panel displays according to the chipset of the installed ETX module. Neptune offers a range of memory sizes from 512MB of 333MHz DDR RAM to 2GB of 667MHz DDR2 SODIMM RAM installed onto the ETX module.

Neptune offers 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. Diamond's Universal Driver programming software for Linux®, Windows® XP and CE, and QNX is included.

Unlike the typical ATX-style baseboards that require multiple input voltages, Neptune is a true embedded product requiring only a single input voltage. Neptune accepts a wide input voltage range of 5-28V DC, making it ideal for many industrial and vehicular applications. Standard operating temperature is 0-60°C, with optional extended operating temperature range that depends on the installed ETX module. Optional conformal coating is also available.

Comprehensive Neptune Development Kits are available. These Development Kits contain everything needed to get started designing with the Neptune high integration SBC except for a keyboard and display. Each kit contains the Neptune board with the selected CPU module and RAM installed, an IDE flashdisk with Linux pre-loaded, all necessary cables, a panel I/O board, an AC adapter and detailed "getting started" documentation.

The Neptune SBC is available in 500MHz, 1.0GHz, and 1.4GHz versions, with and without data acquisition. Neptune and its related products are all available early in the second calendar quarter of 2008 with prices start under \$900. Volume discounts are available.

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 CPU and data acquisition 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.

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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