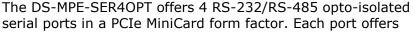# Low Cost, Rugged 4-Port Opto-Isolated Serial PCIe MiniCard
Ideal for add-on Serial Ports in Embedded Applications in Harsh Environments

Mountain View, California — September 5, 2013

Diamond Systems, a leading global supplier of compact, rugged, embedded computing solutions for real-world applications in a broad range of markets, today introduced a rugged, low cost 4-port multiprotocol opto-isolated serial port module in the popular PCIe MiniCard form factor measuring 30 x 51mm.

The DS-MPE-SER4OPT offers 4 RS-232/RS-485 opto-isolated serial ports in a PCIe MiniCard form factor. Each port offers 16C550 compatibility and ultra-deep 256-byte TX/RX FIFOs. Maximum data rates are 1Mbps in RS-232 mode and 10Mbps in RS-485 mode. The board is available preconfigured for 4 RS-232 ports, 4 RS-485 ports, or a combination of 2 RS-232 and 2 RS-485 ports. I/O signals are provided on two miniature latching connectors, with 2 ports per connector.

Each pair of serial ports on the DS-MPE-SER4OPT offers up to 500V isolation from the system ground. Optoisolation increases reliability in applications with long cable runs, where a difference in ground potential can cause significant ground loop currents, damaging non-isolated boards and equipment. Isolation on this miniature board is achieved through a combination of highly integrated isolated power + data components, careful component placement and layout, and a safety-enhancing insulation film on the bottom side, which prevents accidental contact with components on the carrier board.

Extended temperature capability of -40°C to +85°C enables the board to operate in environments with extreme temperature swings, such as vehicles or outdoor installations. In addition, the board may be custom-configured with 0-ohm resistors in place of jumper blocks for increased ruggedness in high-vibration environments.

The DS-MPE-SER4OPT's key features and functions are tabulated below.

Key Features and Functions

- 4 opto-isolated high speed RS-232 or RS-485 ports
- SP336 multi-mode transceivers support all modes
- 256-byte TX/RX FIFOs
- Programmable slew rate minimizes ringing on long or un-terminated cables
- +/-500V ESD protection on all ports
- +3.3VDC input power
- Support for Windows Embedded Standard 7, XP, Vista and Linux 2.6.xx
- Rugged design: -40°C to +85°C operating temperature
- PCIe MiniCard form-factor: (2 x 1.18 in. / 50.95 x 30mm)

The DS-MPE-SER4OPT serial port PCIe MiniCard is the second member of a growing family of PCIe MiniCards from Diamond Systems, following the 4-port high speed RS-232/422/485 card introduced earlier in 2013. This new board provides safe, high speed serial connectivity in harsh environments where isolation is important.

Pricing and Availability

The DS-MPE-SER4OPT 4-port opto-isolated serial PCIe MiniCard module is shipping in September, 2013. Single unit pricing starts at US$175. Contact Diamond Systems for quantity pricing and special-order options.

About Diamond Systems

Founded in 1989 and based in Mountain View, California, Diamond Systems Corporation is a leading global provider of compact, rugged, board- and system-level real world embedded computing solutions to companies in a broad range of markets, including transportation, energy, aerospace, defense, manufacturing, medical, and research. The company is renowned as an innovator of embedded I/O standards and technologies; it originated the FeaturePak I/O modules standard, was an early adopter of PC/104 module technology, and holds a patent for a unique analog I/O autocalibration technique.

Diamond's extensive product line includes compact, highly integrated single-board computers (SBCs); an extensive line of expansion modules for analog and digital I/O, wired and wireless communications, GPS, solid-state disk, and power supply functions; and complete system-level solutions. In support of performance-critical embedded application requirements, these products are engineered to operate reliably over wide operating temperature ranges, such as −40°C to +85°C, and at high levels of shock and vibration. Additionally, the company offers a comprehensive hardware, software, and system integration and customization services.

For further information, please visit www.diamondsystems.com or call +1-800-367-2104.

MEDIA RESOURCES

- DS-MPE-SER4OPT webpage
- DS-MPE-SER4OPT datasheet (pdf)
- DS-MPE-SER4OPT photo (jpg)

DIAMOND SYSTEMS MEDIA CONTACT:

David Fastenau
Director of Marketing
dfastenau@diamondsystems.com
Direct: +1-650-810-2514

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DIAMOND SYSTEMS CORPORATION
555 Ellis Street
Mountain View, California 94043 USA

Tel +1-650-810-2500
Fax +1-650-810-2525
www.diamondsystems.com