PRESS RELEASE
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Highly Integrated Small Form Factor Single Board Computer features Intel Atom E640T CPU and on-board Data Acquisition

Athena III Extends Life of Popular Embedded SBC Family

Mountain View, California — October 2, 2012 — Diamond Systems, a leading global supplier of compact, rugged, embedded computing solutions for real-world applications in a broad range of markets, today unveiled Athena III, a rugged small form factor single board computer (SBC) based on the Intel Atom E640T CPU running at 1.0GHz, and featuring 1 Gigabit Ethernet port, 4 serial ports, and 4 USB 2.0 ports. Athena III is the newest member of Diamond's 2-in-1 SBC products, combining a standard CPU board's features with industry leading data acquisition on a single board. This combination offers a highly integrated SBC in a more compact size with higher reliability, and at a lower cost.

Athena III's power-efficient design leverages Intel's ultra-low-power (Queensbay) silicon platform, consisting of the Atom E640T (Tunnel Creek) processor and chipset (Topcliff). Athena III supports 1GB of DDR2 DRAM soldered on-board and provides high-resolution LVDS and VGA graphics interfaces. Additional I/O ports include SATA, USB, serial, digital I/O, and Gigabit Ethernet. Flexible system expansion is based on stackable PC/104 (ISA) modules, and a socket is provided for an optional on-board USB flashdisk of up to 8GB.

Athena III's integrated data acquisition circuit includes 16 analog inputs with 16-bit A/D and 150KHz maximum sample rate, 4 12-bit analog outputs, 24 digital I/O lines, and two counter/timers. It uses an enhanced 512-sample FIFO with programmable threshold for maximum flexibility and data reliability. The analog circuitry utilizes Diamond Systems' industry-leading Universal Driver software with autocalibration technology to calibrate A/D and D/A circuits. This provides analog I/O performance with the maximum possible accuracy over the full operating temperature range of the product.

"Athena III is the third generation of our most popular SBC and demonstrates our continuing commitment and ability to provide high quality products and long term support to our customers." says Jonathan Miller, President of Diamond Systems. "Providing the same shape, features, and I/O connectors as Athena II, and offering significantly enhanced performance while maintaining similar power consumption and price, the new Athena III adds another 7 years to the lifecycle of products that designed in our earlier generation boards, while requiring minimal redesign efforts by our customers."

Athena III's rugged features include a wide temperature operating range of -40°C to +85°C, soldered-on memory, plus dedicated locations on the PCB to replace configuration jumpers with 0-ohm resistors for resistance to shock and vibration. Conformal coating is also available as an added cost option.

Key Features and Functions

- Compact, low power small form factor SBC
- 2-in-1 design (CPU + DAQ) reduces size and cost
- 1.0GHz Intel Atom E640T CPU
- 1GB soldered-on DDR2 DRAM
- 1 Gigabit Ethernet port
- 4 USB 2.0 ports
- 4 RS-232/422/485 serial ports
- VGA CRT and LVDS LCD display
- 1 SATA port
- 24 programmable digital I/O lines
- PS/2 keyboard and mouse
- Socket for USB flashdisk up to 8GB
- Optional data acquisition circuitry featuring:
  - Multiplexed 16 channel 16-bit A/D
  - 150KHz maximum sample rate
  - 4 12-bit D/A channels
  - 2 counter / timers
  - Autocalibration with Universal Driver software
- Rugged design: -40°C to +85°C operating temperature and memory soldered on board
- PC/104 (ISA) stackable I/O
- Dimensions: 4.175" x 4.475" (106mm x 114mm)
- Fully backward compatible with Athena II SBC and almost 3 times the CPU performance

Athena III is mechanically and functionally backward compatible with Diamond's Athena II SBC, while offering almost three times the performance, lower power consumption, and upgraded features. This compatibility extends the lifetime of existing Athena II applications and demonstrates Diamond Systems' commitment to long term support.

Pricing and Availability

The Athena III single board computer begins shipping in October, 2012. Single unit pricing starts at US$800 for SBCs without data acquisition and $1,050 for SBCs with integrated data acquisition. A development kit is also available, DK-ATHE1000A-01, containing an Athena III SBC with data acquisition, USB flashdisk with Linux pre-loaded, cable kit, and documentation. 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 and the RSODIMM™ rugged memory module 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

- Athena III webpage
- Athena III datasheet (pdf)
- Athena III photo (jpg)

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