

ATHENA

High-Performance Rugged Embedded CPU with Data Acquisition



- Low-power VIA Eden processor for high computing power with reduced power consumption
- Small and light weight
- Single-board solution for increased reliability and compatibility
- Extremely rugged, with soldered RAM and fanless -40°C to +85°C operating temperature

DESCRIPTION

The new Athena CPU from Diamond Systems combines the low-power Pentium-III class VIA Eden processor with on-board memory and data acquisition into a new compact form factor measuring only 4.2" x 4.5". The result is a small, low-heat-dissipation, and extremely rugged embedded CPU that fits in tight spaces and survives harsh environments. On-board 128MB RAM, LCD+CRT video, AC97 audio, 4 USB ports, 4 serial ports, a 16-bit low-noise data acquisition circuit, and extended temperature operation make Athena an all-in-one, complete embedded solution for demanding applications.

Athena can be customized for increased ruggedness. Options include latching connectors, hardwired configuration settings, rugged heat sink mounting, conformal coating, and BIOS modifications.

An enhanced set of I/O ports is provided to support any application's requirements, including 10/100Mbps Ethernet, UDMA-33 IDE, parallel port, PS/2 keyboard and mouse ports, and 4 USB 1.1 ports. The board also has 4 16450-compatible RS-232 serial ports. The watchdog timer provides protection from software crashes and is programmable for delays up to 2 seconds.

CPU SPECIFICATIONS

Processor	VIA Eden 400-660MHz Processor
Memory	128MB soldered
Display	None
USB	4 USB 1.1
Serial	4 RS232
Networking	10/100 Ethernet
Mass Storage	IDE, FlashDisk
Keybd / Mouse	PS/2
Dimensions	4.175"W x 4.475"H
Input Power	+5VDC +/-5
Operating temp	-40°C to +85°C
Weight	5.3oz / 150g
Analog Inputs	16 single-ended / 8 differential
Max Sample Rate	100KHz
Input Modes	single ended, differential
Input ranges	+/-10V, +/-5V, +/-2.5V, +/-1.25V, 0-10V, 0-5V, 0-2.5V, 0-1.25V
Analog Outputs	4, 12-bit resolution
Output ranges	+/-10V, +/-5V, 0-10V, 0-5V
Digital I/O	24 lines, TTL
Direction	Programmable
Counter / timers	1 24-bit and 1 16-bit

The built-in PC/104 expansion bus enables Athena to work with almost all the data acquisition and communications modules in this catalog, as well as hundreds of I/O boards from other vendors. The board can be provided with either stackthrough PC/104 connectors (standard) or non-stackthrough connectors for a slim baseboard application. The new compact 4.2" x 4.5" form factor, slightly larger than PC/104, enables Athena to include more features on a single board and still fit inside our Pandora enclosure system.

Development Kit

A development kit is available with all the hardware you need to get started on your embedded design project. The kit contains an Athena board, flashdisk module, cable kit, I/O panel board and software CD.

ORDERING INFORMATION

Part No.	Description
ATH400-128	Athena 400MHz 128MB with data acquisition
ATH400-128N	Athena 400MHz 128MB without data acquisition
ATH660-128	Athena 660MHz 128MB with data acquisition
ATH660-128N	Athena 660MHz 128MB without data acquisition
C-ATH-KIT	Athena cable kit
DK-ATH-01	Athena development kit
PS-5V-03	AC adaptor for Athena

FOR MORE INFORMATION

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