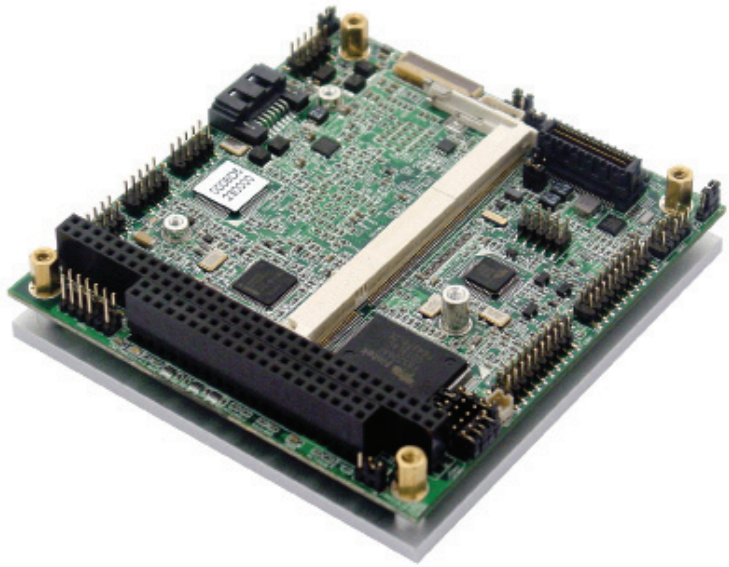
Aurora™ PC/104 SBC

DIAMOND SYSTEMS

PC/104™ SBC with Atom™ Z-Series CPU and SUMIT-ISM™ expansion



Highly Integrated SBC

Aurora is a high performance, highly integrated single board computer in the PC/104 form-factor incorporating a wealth of standard PC-style I/O plus on-board digital I/O. It accepts both SUMIT and PC/104 add-on I/O modules.

High Performance, Low Power Advantage

The SBC's Intel Atom Z-Series CPUs offer an excellent balance of performance, power consumption, and cost, making Aurora an ideal choice for a wide variety of high-performance embedded computing applications.

Optimized for Real World Applications

Aurora was designed to meet the needs of real-world applications. The SBC integrates an optimal selection of features for its size, power, and cost budgets, yielding maximum functionality and performance within a compact board. Latest generation connectivity such as SATA, Gigabit Ethernet, and PCI Express ensures long lifetime and top performance. PC/104 expansion maintains compatibility with legacy applications, while SUMIT expandability provides a migration path to current and future high-speed I/O.

Intelligent Thermal Solution

Old-style, top-mounted heat sinks are being abandoned in favor of more effective new-generation techniques. The heat-generating CPU and chipset are located on the bottom side of the SBC, and an integrated bottom-mounted heatspreader dissipates heat efficiently to the system enclosure. This configuration leaves the SBC's top side free for easy access to memory, on-board I/O, and expansion sockets.

Software Support

Aurora is compatible with Linux, Windows XP®, and Windows® Embedded Standard. All necessary drivers are provided.

Key Features

- Compact, low-power, high-performance, stackable PC/104 SBC
- Intel® Atom Z530 CPU at 1.6GHz or Atom Z510 CPU at 1.1GHz
- Up to 2GB ruggedized RSODIMM™ DDR2 SDRAM
- 4 USB 2.0 ports
- 2 RS-232/422/485 and 2 RS-232 serial ports
- Gigabit Ethernet
- 1 SATA port
- Socket for USB flashdisk up to 8GB
- LVDS and SDVO display interfaces
- PS/2 keyboard and mouse support
- 8 digital I/O lines
- Watchdog timer
- Optional on-board USB flashdisk
- PC/104-sized SUMIT-ISM form-factor
- PC/104 (ISA) and SUMIT-A (PCIe) stackable expansion
- -40°C to +80°C operating temperature

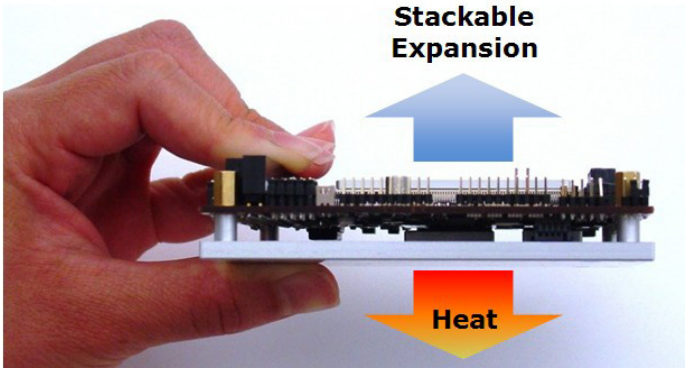
Development Kit

The Aurora Development Kit (DK-AUR-01) provides all the components you need for fast and efficient embedded development. The kit includes an Aurora SBC, USB flashdisk with Linux pre-loaded, cable kit, power adapter, software CD, and documentation.

Aurora: PC/104 SBC with Atom Z-Series CPU

SPECIFICATIONS

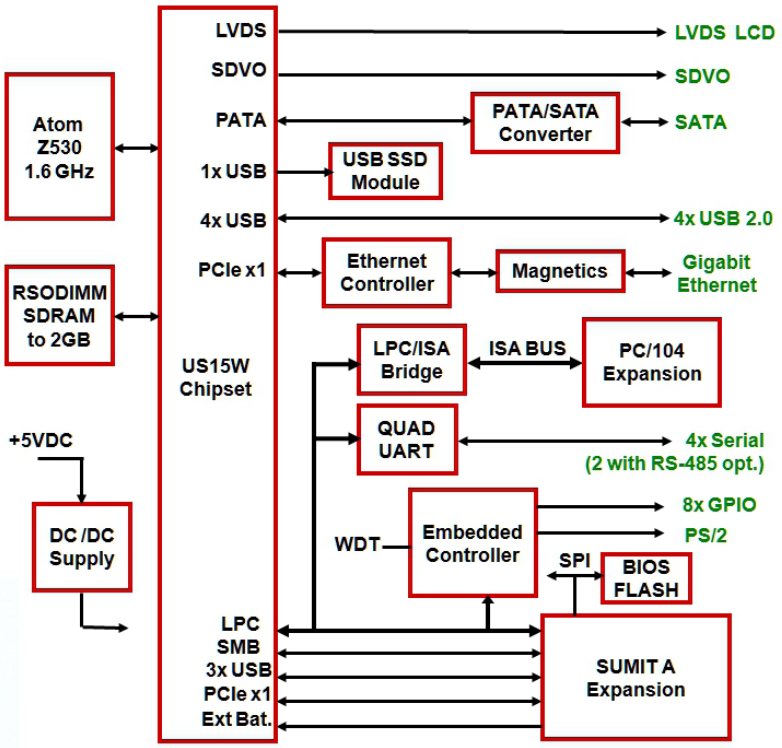
Processor	Intel Atom Z530P at 1.6GHz or Atom Z510 at 1.1GHz
Cooling	Heatspreader, fanless
Memory	Up to 2GB ruggedized RSODIMM DDR2 DRAM
Display options	LVDS flat panel interface, SDVO optional VGA adapter
USB ports	4 USB 2.0
Serial ports	2 RS-232/422/485, 2 RS-232
Networking	1 Gigabit Ethernet from Intel 82574IT
Mass storage	1 SATA port Optional on-board USB flashdisk
Keyboard/Mouse	PS/2, with BIOS support for USB
Digital I/O	8 digital I/O lines
Watchdog Timer	Yes
Expansion buses	SUMIT-A stackable, PC/104 (ISA) stackable
Input power	+5VDC +/-5% at 5.4W
Operating temp.	-40°C to +80°C (-40°F to +176°F)
MTBF	211,720 hours
Shock	MIL-STD-202G Table 213-1 J Half-Sine Wave, 30 G, 11ms
Vibration	MIL-STD-202G Method 204, Modified Condition I A, Random Vibration: 20-2000Hz Sine Sweep Vibration: 10-2000Hz
Dimensions	3.55" x 3.775" x 0.9" (90mm x 96mm x 23mm)
Weight	7.5oz / 212g
RoHS	Compliant



ORDERING INFORMATION

AUR-Z530-16-0G	Aurora SBC, 1.6GHz Atom Z530, 0GB SDRAM
AUR-Z530-16-1G	Aurora SBC, 1.6GHz Atom Z530, 1GB SDRAM
AUR-Z530-16-2G	Aurora SBC, 1.6GHz Atom Z530, 2GB SDRAM
AUR-Z510-11-0G	Aurora SBC, 1.1GHz Atom Z510, 0GB SDRAM
AUR-Z510-11-1G	Aurora SBC, 1.1GHz Atom Z510, 1GB SDRAM
DK-AUR-01	Aurora Development Kit with AUR-Z530-16-1G SBC, power supply, USB flashdisk with Linux pre-loaded, cable kit, and documentation
PNL-AUR-01	Aurora panel I/O board with mounting hardware
ACC-VGA-03	Aurora VGA adapter

Block Diagram



The Aurora SBC's bottom-mounted heat spreader leaves the entire top side free, enabling easy access to memory module and installation of add-on I/O modules.