

AURORA



SUMIT-ISM SBC with Atom Z530 CPU and flexible expansion



Highly Integrated SBC

Aurora is a high performance, highly integrated single board computer in the SUMIT-ISM 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 Z530 CPU offers 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

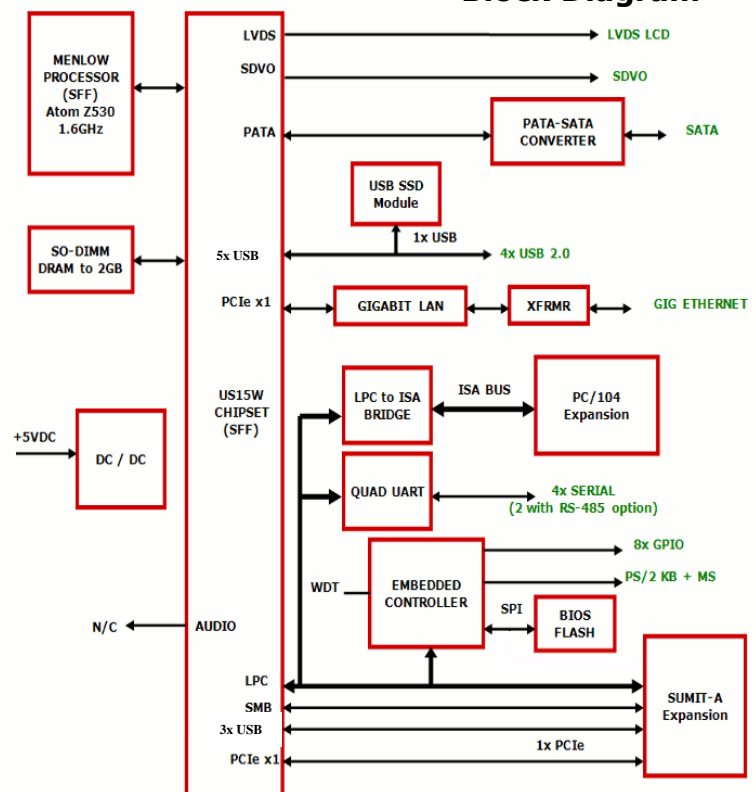
Aurora was designed to meet the needs of real-world applications. The SBC integrates an optimal selection of features for its size, power, and cost budgets, yielding maximum functionality and performance within a compact board. Latest generation connectivity such as SATA, Gigabit Ethernet, and PCI Express 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.

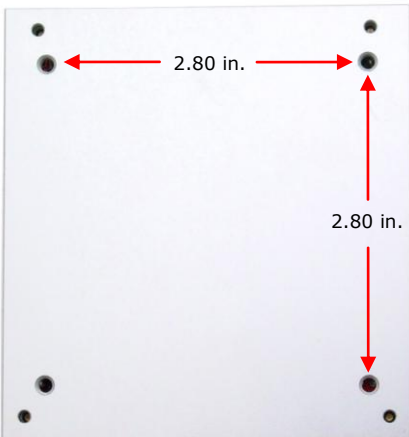
- ◆ Compact, low-power, high-performance, stackable SBC
- ◆ Intel Atom Z530 CPU at 1.6GHz
- ◆ Up to 2GB ruggedized RSODIMM™ DDR2 SDRAM
- ◆ Comprehensive set of I/O interfaces:
 - 4 USB 2.0 ports
 - 2 RS-232/422/485 and 2 RS-232 serial ports
 - Gigabit Ethernet
 - 1 SATA port
 - Socket for USB flashdisk 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
- ◆ -20°C to +71°C (-4°F to +160°F) operating temperature

Block Diagram

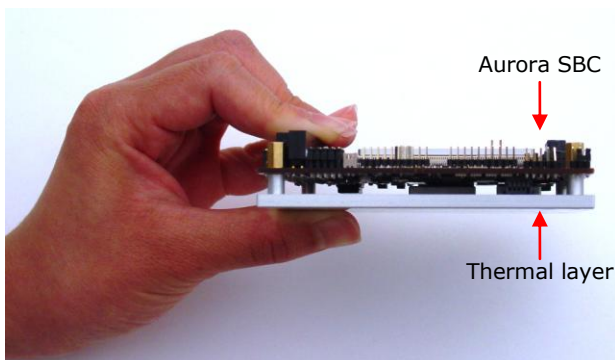


Specifications

Processor	Intel Atom Z530P at 1.6GHz
Cooling	Heatspreader, fanless
Memory	Up to 2GB ruggedized RSODIMM™ DDR2 DRAM
Display options	LVDS flat panel interface SDVO (optional VGA adapter)
LVDS backlight power	+5V or +12V jumper selectable
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 Support for USB flashdisk
Keyboard/Mouse	PS/2, with BIOS support for USB
Digital I/O	8 digital I/O lines
Watchdog Timer	Yes
PCI Express	1 PCIe x1 lane to SUMIT-A bus
Expansion buses	SUMIT-A stackable PC/104 (ISA) stackable
Input power	5V ±5%
Power consumption	5.4W
Operating temp.	-20°C to +71°C (-4°F to +160°F)
MTBF	211,720 hours
Shock	MIL-STD-202G Table 213-1 J
Vibration	MIL-STD-202G Method 204
Dimensions	3.55" x 3.775" x 0.9" (90mm x 96mm x 23mm)
Weight	7.5oz / 212g
RoHS	Compliant



Aurora's aluminum thermal dissipation heatspreader with standardized mounting hole pattern



Key Features

Aurora is a rugged, single board computer (SBC) based on the 1.6GHz Intel Atom Z530P CPU and conforming to the compact, PC/104-sized, SUMIT-ISM form-factor.

The SBC supports up to 2GB of ruggedized RSODIMM™ DDR2 SDRAM and provides high-resolution LVDS and SDVO graphics interfaces. Additional I/O ports include SATA, USB, serial, digital I/O, and Gigabit Ethernet. Flexible system expansion is based on industry-standard, stackable PC/104 (ISA) and SUMIT-A (PCIe) modules. A location is also provided for an optional on-board USB flashdisk.

Aurora's power-efficient design leverages Intel's ultra-low-power (Menlow) silicon platform, consisting of the Atom Z5xx (Silverthorne) processors and US15W chipset (Poulsbo). These ICs are positioned on the bottom of the board, resulting in easy and efficient heat removal via a heatspreader for wide-temperature, fanless operation.

Software Support

Aurora is compatible with Linux, Windows XP, Windows Embedded Standard, Windows Embedded CE, and QNX. All necessary drivers are provided with the product.

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.

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
DK-AUR-01	Aurora Development Kit with AUR-Z530-16-1G SBC, power supply, USB flashdisk with Linux pre-loaded, cable kit, and documentation
FDU-1G-XT	1GB USB flashdisk
FDU-2G-XT	2GB USB flashdisk
FDU-4G-XT	4GB USB flashdisk
FDU-8G-XT	8GB USB flashdisk
MEM-1024R-05	1024MB DDR RSODIMM™ Ruggedized SDRAM
MEM-2048R-05	2048MB DDR RSODIMM™ Ruggedized SDRAM
SDK-AUR-LNX	Aurora Linux Software Development Kit
SDK-AUR-XPE	Aurora Windows XPe Software Development Kit
C-AUR-KIT	Aurora Cable Kit for all on-board I/O
PNL-AUR-01	Aurora panel I/O board with mounting hardware