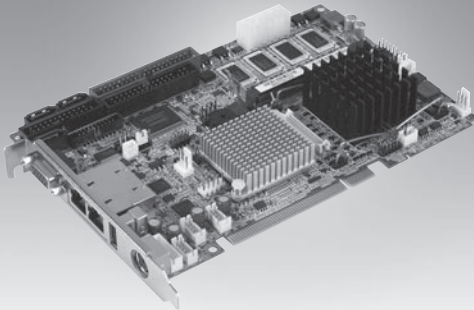


PCI-7031

Intel® Atom N450/D510, PCI Half-Sized SBC with On-board DDR2/VGA/LVDS/Dual GbE/SATA/COM

Preliminary



CE FCC

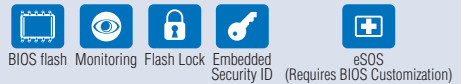
Features

- Ultra low power, fan-less N450 CPU and 1 GB on-board DDR2 667 memory (Only for N SKU)
- Dual core high performance D510 CPU and maximum 2 GB DDR2 667 memory (Only for D SKU)
- VGA/LVDS dual video outputs
- Optional module for 4 x RS-485 w/ auto-flow control
- Supports embedded software APIs and Utilities

Software APIs:



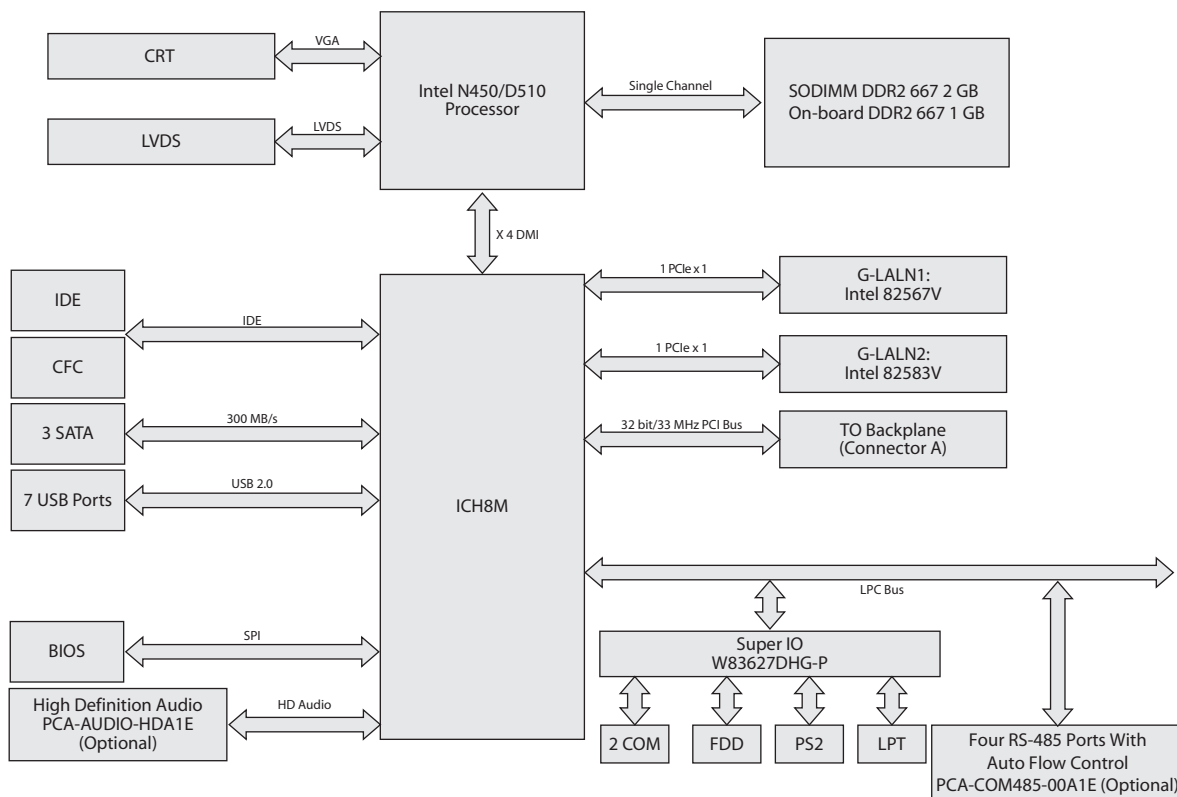
Utilities:



Specifications

| | | | | | | | | |
|-------------------|--------------------|---|-----------------|--------|---------|-------|---|----------|
| Processor System | CPU | Intel Atom N450 | Intel Atom D510 | | | | | |
| | Speed | 1.66 GHz | 1.66 GHz | | | | | |
| | L2 Cache | 512 KB | 1 MB | | | | | |
| | Chipset | ICH8M | | | | | | |
| | BIOS | AMI 16Mb SPI Flash | | | | | | |
| Bus | PCI-Express | N/A | | | | | | |
| | PCI | Four 32 bit/33 MHz PCI Masters to Backplane | | | | | | |
| Memory | Technology | Single channel DDR2 667 MHz | | | | | | |
| | Max. Cap. | 1 GB on-board for N SKU; max 2 GB SODIMM for D SKU | | | | | | |
| | Socket | No socket for N SKU; 200-pin DIMM x 1 for D SKU | | | | | | |
| Graphic | On board VRAM | Embedded Gen3.5+ GFX Core technology, Direct X 9/Pixel Shader 2.0 compliant | | | | | | |
| | Video Intercae | Shared 224 MB | | | | | | |
| | Video Output | 15 pin VGA D-sub connector x1/On-board LVDS pin header x 1 (supports single channel 18-bit LVDS) | | | | | | |
| | Video Output | VGA: Supports up to SXGA 1400 x 1050 @ 60 Hz for N SKU, up to 2048 x 1536 @ 60 Hz for D SKU LVDS: Supports 18-bit single channel and up to WXGA 1366 x 768 or 1280 x 800 for both N and D SKUs Dual Display: CRT + LVDS, support extended mode and clone mode for both N and D SKUs | | | | | | |
| Ethernet | Interface | 10/100/1000Base-T | | | | | | |
| | Controller | LAN1: Intel 82567V LAN2: Intel 82583V | | | | | | |
| | Connector | RJ45 with LED Connector x 2 | | | | | | |
| SATA 2 | Max. transfer rate | 300MB/s | | | | | | |
| EIDE | Channel | 3 | | | | | | |
| | Mode | ATA 100/66/33 | | | | | | |
| I/O Interface | Channel | 1 (support up to 2 IDE devices) | | | | | | |
| | USB 2.0 | 7 ports on the SHB | | | | | | |
| | Serial | Two RS-232 on-board pin-headers, plus four ports of RS-485 with auto-flow control by module (Advantech P/N: PCA-COM485-00A1E) | | | | | | |
| | Parallel | 1 (EPP/ECP) | | | | | | |
| | FDD | 1 | | | | | | |
| Watchdog Timer | PS/2 | 1 (for mouse and keyboard, an Y cable is included in the package) | | | | | | |
| | Output | System reset | | | | | | |
| | Interval | Programmable 1, 2, 4, 8, ..., 256 sec/min | | | | | | |
| Miscellaneous | Audio Output | Intel High Definition audio interface (requires an audio extension module, P/N: PCA-AUDIO-HDA1E) | | | | | | |
| Power Requirement | Test Equipment | Atom D510 CPU 1.66 GHz; Memory: 1 Piece of 2 GB DDR2 667 MHz SODIMM; Storage: One IDE HDD and one SATA CD ROM | | | | | | |
| | Test program | BurnIn test 6.0 | | | | | | |
| | Voltage | +12 V | +5 V | +3.3 V | +5 SBY | -12 V | -5 V | Total |
| | Current | 0.228 A | 2.952 A | 0 A | 0.060 A | 0 A | 0 A | 17.796 W |
| | Test Equipment | Atom N450 CPU 1.66 GHz; Memory: On-board 1GB DDR2 667 MHz; Storage: One IDE HDD and one SATA CD ROM | | | | | | |
| | Test program | BurnIn test 6.0 | | | | | | |
| | Voltage | +12 V | +5 V | +3.3 V | +5 SBY | -12 V | -5 V | Total |
| | Current | 0.192 A | 2.532 A | 0 A | 0.060 A | 0 A | 0 A | 15.264 W |
| Environment | Status | Operating | Non-Operating | | | | | |
| | Temperature | 0 ~ 60° C (32 ~ 140° F) (operation humidity: 40° C @ 85% RH Non-Condensing) | | | | | -40 ~ 85° C and 60° C @ 95% RH Non-Condensing | |
| Physical | Dimensions | 185 mm (L) x 122 mm (W) (7.3" x 4.8") | | | | | | |

Board Diagram



Ordering Information

| Model Name | CPU | Memory | Fan-less | VGA | LVDS | SATA | USB | COM | CF |
|-----------------|-----------|---|----------|-----|------|------|-----|-----|-----|
| PCI-7031D-S6A1E | Atom D510 | 1 SODIMM Socket 2 GB DDR2 667 On-board 0 GB | No | Yes | Yes | 3 | 7 | 2 | Yes |
| PCI-7031N-S6A1E | Atom N450 | No SODIMM Socket On-board 1 GB DDR2 667 | Yes | Yes | Yes | 3 | 7 | 2 | Yes |

Accessories

| Part Number | Description |
|------------------|---|
| PCA-COM485-00A1E | Extension module for four ports of RS-422/485 with auto-flow control function |
| PCA-AUDIO-HDA1E | Extension module for 7.1 channel High Definition audio |

Bracket View



PCI-7031D-S6A1E
PCI-7031N-S6A1E

Packing List

| Part Number | Description | Quantity |
|---------------|---|----------|
| 960046526N001 | CPU Cooler for Atom D510 CPU (Only Available for D SKU) | 1 |
| 1700340640 | FDD cable | 1 |
| 1701400452 | Ultra ATA 66/100 HDD cables | 1 |
| 1700003194 | Serial ATA HDD data cable | 2 |
| 1703150102 | Serial ATA HDD power cable | 2 |
| 1701260301 | Printer (parallel) port cable kit | 1 |
| 1700008762 | Dual COM ports cable kit | 1 |
| 1700002343 | ATX Feature Cable | 1 |
| 1700008887 | 4-port USB cable kit | 1 |
| 1700060202 | Y cable for PS/2 keyboard and PS/2 mouse | 1 |
| 1700000265 | AT/ATX PSU 20-Pin to 12-Pin Cable Kit | 1 |
| 9689000068 | Jumper Pack | 1 |
| | Warranty card | 1 |
| | PCI-7031 Startup Manual | 1 |
| | CD with driver utility and manual (in PDF format) | 1 |