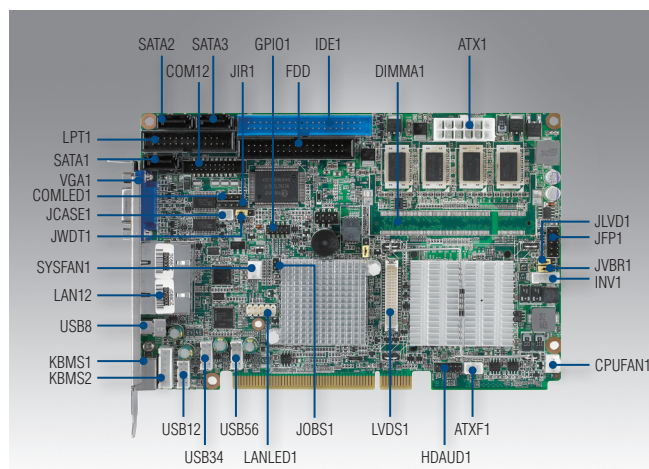


# PCI-7031

Intel® Atom™ N450/D510 PCI Half-size SBC with Onboard DDR2/VGA/LVDS/Dual GbE/SATA/COM



## Features

- Ultra low power, fanless Intel® Atom™ processor N450 CPU and 1 GB onboard DDR2 667 memory (Only for N SKU)
- Dual Core™ high performance D510 CPU and maximum 2 GB DDR2 667 memory (For both D & DF SKUs)
- 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:

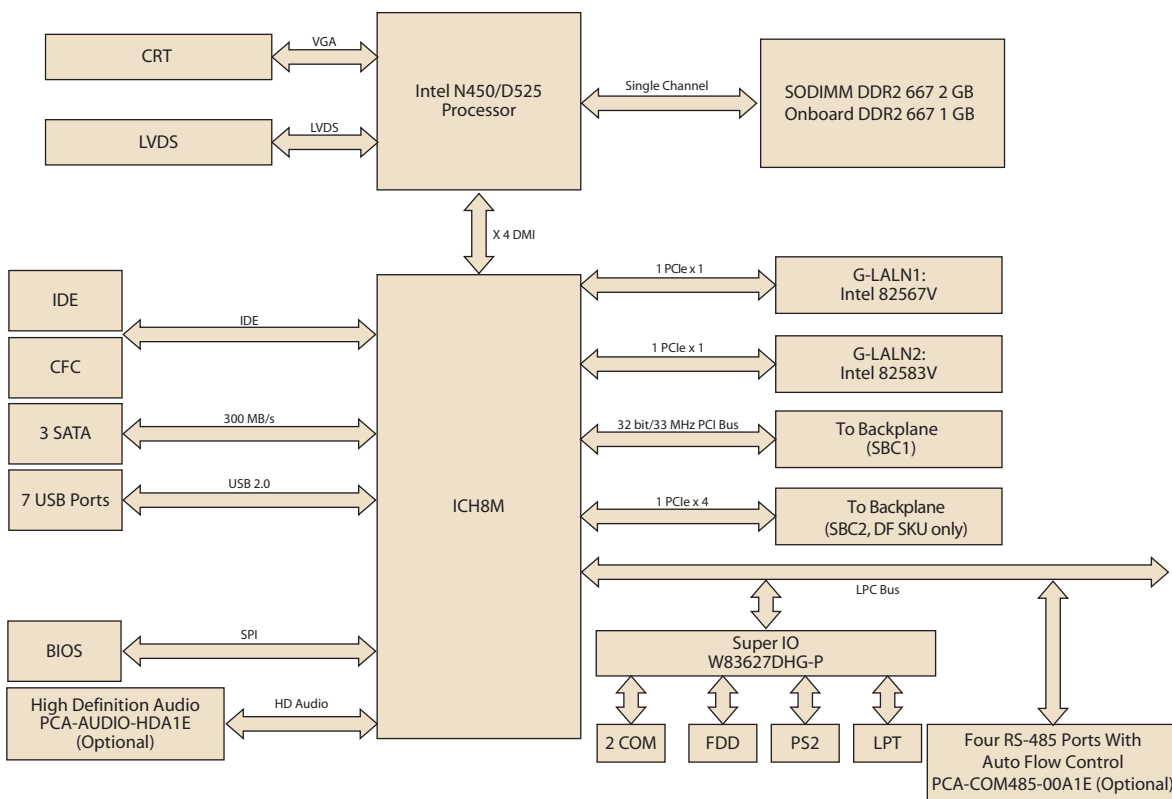


Note: eSOS needs ODM BIOS available by request

## 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        | -  |   |
|                  | PCI                | Four 32 bit/33 MHz PCI Masters to Backplane  |   |
| Memory           | Technology         | Single channel DDR2 667 MHz  |   |
|                  | Max. Cap.          | 1 GB onboard for N SKU; max 2 GB SODIMM for D SKU  |   |
|                  | Socket             | No socket for N SKU; 200-pin SODIMM x 1 for D SKU  |   |
| Graphics         | Onboard            | Embedded Gen3.5+ GFX Core technology, DirectX 9/Pixel Shader 2.0 compliant   |   |
|                  | VRAM               | Shared 224 MB  |   |
|                  | Video Interface    | 15-pin VGA D-sub connector x1/Onboard 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 & DF SKU  |   |
|                  | LVDS               | Supports 18-bit single channel and up to WXGA 1366 x 768 or 1280 x 800 for N, D, & DF SKUs   |   |
| Ethernet         | Interface          | 10/100/1000 Mbps   |   |
|                  | Controller         | LAN1: Intel 82567V<br>LAN2: Intel 82583V   |   |
| SATA             | Connector          | RJ-45 with LED Connector x 2   |   |
|                  | Max. Transfer Rate | 300 MB/s   |   |
| EIDE             | Channel            | 3  |   |
|                  | Mode               | ATA 100/66/33  |   |
| I/O Interface    | Channel            | 1 (supports up to 2 IDE devices)   |   |
|                  | USB 2.0            | 7 ports on the SHB   |   |
|                  | Serial             | Two RS-232 onboard pin-headers, plus four four RS-485 ports with auto-flow control by module (Optional, 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   |   |
| Miscellaneous    | Interval           | Programmable, 1~255 sec  |   |
|                  | Audio Output       | Intel High Definition audio interface (requires a audio extension module, P/N: PCA-AUDIO-HDA1E)  |   |
| Environment      | Operating          | Operating  | Non-Operating                                 |
|                  | Temperature        | 0 ~ 60° C (32 ~ 140° F) (operating 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")  |   |

### Block Diagram



### Ordering Information

| Model Name       | CPU        | Memory  | Fanless | VGA | LVDS | SATA | USB | COM | CF |
|------------------|------------|---|---------|-----|------|------|-----|-----|----|
| PCI-7031D-S6A1E  | Atom™ D510 | One SODIMM Socket 2 GB DDR2 667<br>No Onboard RAM | No      | 1   | 1    | 3    | 7   | 2   | 1  |
| PCI-7031DF-S6A1E | Atom D510  | One SODIMM Socket 2GB DDR2 667<br>No Onboard RAM  | Yes*    | 1   | 1    | 3    | 7   | 2   | 1  |
| PCI-7031N-S6A1E  | Atom™ N450 | No SODIMM Socket<br>Onboard 1 GB DDR2 667         | Yes     | 1   | 1    | 3    | 7   | 2   | 1  |

\*PCI-7031DF-S6A1E is only compatible with chassis: IPC-120 and backplane: PCI-7103P1V-01.

### Optional Accessories

| Part Number      | Description  |
|------------------|--|
| PCA-COM485-00A1E | Extension module for four RS-422/485 ports 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  
 PCI-7031DF-S6A1E

### Packing List

| Part Number   | Description  | Quantity |
|---------------|--|----------|
| 960046526N001 | CPU cooler for Atom™ D510 CPU (only available for D SKU) | x 1      |
| 1700003194    | Serial ATA HDD data cable                                | x 1      |
| 1703150102    | Serial ATA HDD power cable                               | x 1      |
| 1701260301    | Printer (parallel) port cable kit                        | x 1      |
| 1700008762    | Dual COM ports cable kit                                 | x 1      |
| 1700002343    | ATX feature cable  | x 1      |
| 1700014398    | 4-port USB cable kit                                     | x 1      |
| 1700060202    | Y cable for PS/2 keyboard and PS/2 mouse                 | x 1      |
| 1700000265    | AT/ATX PSU 20-Pin to 12-Pin Cable Kit                    | x 1      |
| 9689000068    | Jumper pack  | x 1      |
| -             | Warranty card  | x 1      |
| -             | PCI-7031 startup manual                                  | x 1      |
| -             | CD with driver utility and manual (in PDF format)        | x 1      |