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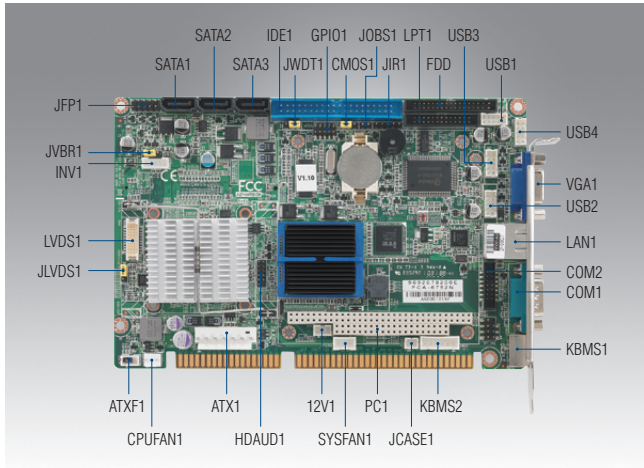
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# PCA-6782

## Intel® Atom N455/D525 ISA Half-size SBC with VGA/LVDS/GbE LAN/SATA/COM/CFC/FDD and PC/104



### Features

- Ultra low power, fanless N455 CPU and maximum 2 GB DDR2 667 memory (Only for N SKU)
- Dual core high performance D525 CPU and maximum 2 GB DDR2 667/800 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:

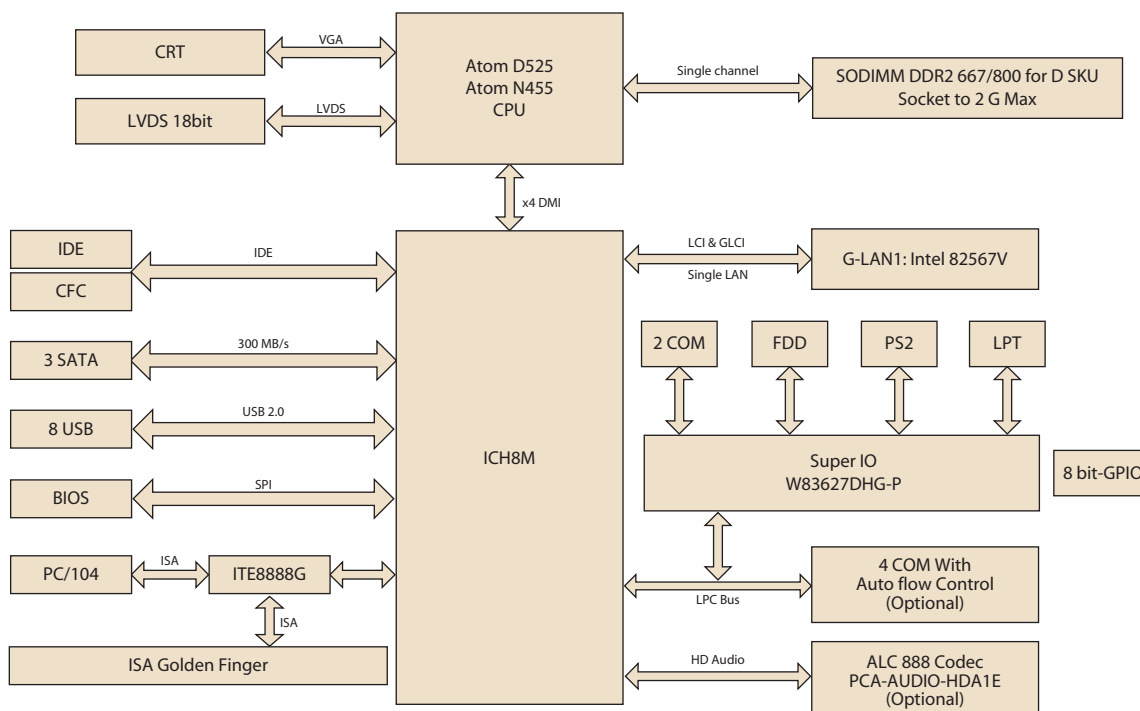


### Specifications

|                   |                       |  |                                 |        |   |       |         |         |
|-------------------|-----------------------|--|---------------------------------|--------|---|-------|---------|---------|
| Processor System  | CPU                   | Intel Atom N455  | Intel Atom D525                 |        |   |       |         |         |
|                   | Speed                 | 1.66 GHz   | 1.8 GHz                         |        |   |       |         |         |
|                   | L2 Cache              | 512 KB   | 1 MB                            |        |   |       |         |         |
|                   | Chipset               | Intel ICH8M  |                                 |        |   |       |         |         |
|                   | BIOS                  | AMI 16Mb SPI Flash   |                                 |        |   |       |         |         |
| Bus               | PCI                   | N/A  |                                 |        |   |       |         |         |
|                   | ISA                   | 16-bit/Gold Finger   |                                 |        |   |       |         |         |
| Memory            | Technology            | Single channel DDR2 667 MHz  | Single channel DDR2 667/800 MHz |        |   |       |         |         |
|                   | Max. Cap.             | max 2 GB SODIMM  | max 2 GB SODIMM                 |        |   |       |         |         |
|                   | Socket                | 200-pin DIMM x 1   | 200-pin DIMM x 1                |        |   |       |         |         |
| Graphics          | On board              | Embedded Gen3.5+ GFX Core technology, Direct X 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 SKU   |                                 |        |   |       |         |         |
|                   | LVDS:                 | Supports 18-bit single channel and up to WXGA 1366 x 768 or 1280 x 800 for both N and D SKUs   |                                 |        |   |       |         |         |
| Ethernet          | Interface             | 10/100/1000 Mbps   |                                 |        |   |       |         |         |
|                   | Controller            | LAN1: Intel 82567V   |                                 |        |   |       |         |         |
| SATA 2            | Connector             | RJ45 with LED Connector x1   |                                 |        |   |       |         |         |
|                   | 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               | 8 ports on the SHB   |                                 |        |   |       |         |         |
|                   | Serial                | Two RS-232 onboard pin-headers, plus four ports of RS-485 with auto-flow control by module (optional, Advantech P/N: PCA-COM485-00A1E) |                                 |        |   |       |         |         |
|                   | Parallel              | 1 (EPP/ECP)  |                                 |        |   |       |         |         |
|                   | GPIO                  | 1 (8-bit)  |                                 |        |   |       |         |         |
|                   | FDD                   | 1  |                                 |        |   |       |         |         |
| Watchdog Timer    | PS/2                  | 1 (for mouse and keyboard, a Y cable is included in the package)   |                                 |        |   |       |         |         |
|                   | Output                | Interrupt, system reset  |                                 |        |   |       |         |         |
| Miscellaneous     | Interval              | Programmable, 1~255 sec/min  |                                 |        |   |       |         |         |
|                   | Audio Output          | Intel High Definition audio interface (requires an audio extension module, P/N: PCA-AUDIO-HDA1E)                                       |                                 |        |   |       |         |         |
| Power Requirement | Test Equipment        | Atom D525 CPU 1.8 GHz; Memory: One of 2 GB DDR2 667 MHz SODIMM; Storage: One SATA HDD  |                                 |        |   |       |         |         |
|                   | Test Program          | Hot CPU pro 4.22   |                                 |        |   |       |         |         |
|                   | Voltage               | +12 V  | +5 V                            | +3.3 V | +5 VSB  | -12 V | -5 V    | Total   |
|                   | Current               | 0.46 A   | 2.41 A                          | 0 A    | 0.01 A  | 0 A   | 0 A     | 17.62 W |
|                   | Test Equipment        | Atom N455 CPU 1.66 GHz; Memory: One of 2 GB DDR2 667 MHz SODIMM; Storage: One SATA HDD   |                                 |        |   |       |         |         |
|                   | Test Program          | Hot CPU pro 4.22   |                                 |        |   |       |         |         |
|                   | Voltage               | +12 V  | +5 V                            | +3.3 V | +5 VSB  | -12 V | -5 V    | Total   |
| Current           | 0.13 A                | 2.19 A   | 0 A                             | 0.01 A | 0 A   | 0 A   | 12.56 W |         |
| Environment       | Operating             | Non-Operating  |                                 |        |   |       |         |         |
|                   | Temperature           | 0 ~ 60° C (32 ~ 140° F)  |                                 |        | -40 ~ 85° C and 60° C @ 95% RH Non-Condensing |       |         |         |
| Physical          | Operational humidity: | 40° C @ 85% RH Non-Condensing  |                                 |        |   |       |         |         |
|                   | Dimensions            | 185 mm (L) x 122 mm (W) (7.3" x 4.8")  |                                 |        |   |       |         |         |



## Block Diagram



## Ordering Information

| P/N             | CPU       | Fan-Less | LAN            | PC104 | LVDS | FDD | SATA | USB | RAM          |
|-----------------|-----------|----------|----------------|-------|------|-----|------|-----|--------------|
| PCA-6782D-S8A1E | Atom D525 | No       | Single GbE LAN | Yes   | Yes  | 1   | 3    | 8   | Socket to 2G |
| PCA-6782N-S6A1E | Atom N455 | Yes      | Single GbE LAN | Yes   | Yes  | 1   | 3    | 8   | Socket to 2G |

## Optional 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                        |
| 1701340603       | FDD cable   |

## Bracket View



PCA-6782D-S8A1E  
PCA-6782N-S6A1E

## Packing List

| Part Number    | Description   | Quantity |
|----------------|---|----------|
| 1960046526N001 | CPU Cooler for Atom D510 CPU (Only Available for D SKU) | x 1      |
| 1701400452     | Ultra ATA 66/100 HDD cables                             | x 1      |
| 1700003194     | Serial ATA HDD data cable                               | x 2      |
| 1703150102     | Serial ATA HDD power cable                              | x 2      |
| 1700008954     | Print port & COM port cable                             | 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      |
| 1703070101     | ATX Power Cable 20P/7P 10 cm                            | x 1      |
| 1703080101     | AT Power Cable  | x 1      |
| 9689000002     | Jumper Pack   | x 1      |
| -              | Warranty card   | x 1      |
| -              | PCA-6782 Startup Manual                                 | x 1      |
| -              | CD with driver utility and manual (in PDF format)       | x 1      |