

## PCM-9562 Intel® Atom N450/D510 EBX SBC with 3LAN/6 COM/3 SATA/8 USB2.0/2 Watchdog Startup Manual

### Packing List

Before you begin installing your card, please make sure that the following items have been shipped:

- 1 x PCM-9562 A1 SBC
- 1 x Startup manual
- 1 x Utility CD
- 1 x ATX 5VSB CABLE 1700015741
- 1 x mini jumper pack 9689000002

If any of these items are missing or damaged, please contact your distributor or sales representative immediately.

**Note 1:** For detailed contents of PCM-9562, please refer to information on the enclosed CD-ROM (in PDF format).

**Note 2:** Acrobat Reader is required to view any PDF file. Acrobat Reader can be downloaded at: [www.adobe.com/Products/acrobat/readstep2.html](http://www.adobe.com/Products/acrobat/readstep2.html) (Acrobat is a trademark of Adobe)

### Specifications

#### General

- **CPU:** N450/D510  
ATOM N450 (Single Core) 1.67 GHz: PCM-9562N-S6A1E  
ATOM D510 (Dual Core) 1.67 GHz: PCM-9562D-S6A1E
- **2nd Cache Memory:**  
N450: 512 KB  
D510: 1 MB
- **System Chipset:** N450/D510 + ICH8M
- **BIOS:** AMI 16Mbit Flash BIOS
- **System Memory:** 1 x 200-pin SODIMM sockets, DDR2  
N450 : DDR2 667 MHz  
D510 : DDR2 800 MHz
- **Power Management:** APM 1.2, ACPI support
- **Watchdog Timer:** 255-level interval timer
- **Expansion Interface:** PC-104 plus
- **Battery:** Lithium 3 V / 196 mA

#### I/O

- **I/O Interface:** 1 x CF, 3 x SATA 2.5, 1 x K/B, 1 x Mouse, 4 x RS232 (One is optional for Medical), 2 x RS232/422/485 (Default RS-422/485, RS-232 by optional), 1 x LPT ( FDD is optional )
- **USB:** 8 x USB 2.0 compliant Ports
- **Audio:** AC97, Line-in, Line-out, Mic-in, speaker out (R/L)
- **IrDA:** 115kbps (optional by request) shared from COM2
- **GPIO:** 16-bit General Purpose I/O

#### Ethernet

- **Chipset:** LAN1 : Intel 82567, LAN2 : Intel 82583V, Optional LAN3: Intel 82583V (UL60601 Compliant)
- **Speed:** 10/100/1000 Mbps
- **Interface:** 3 (RJ-45 connector through the cable and LAN3 is optional)
- **Standard:** IEEE 802.3u 100Base-T & IEEE 802.3ab 1000Base-T for 10/100/1000 Mbps

#### Display

- **Controller:** N450/D510
- **VRAM:** Shared Memory Architecture up to 224 MB system memory
- **VGA:** SXGA 1400 x 1050 @ 60 Hz for Atom N450, up to 2048 x 1536 for Atom D510
- **LVDS LCD:** 1 x 18-bit LVDS
- **Dual Independent Display:** CRT + LVDS

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<http://www.advantech.com>

<http://www.advantech.com/epc>

For technical support and service, please visit our support website at:

<http://service.advantech.com.tw/eservice/>

This manual is for the PCM-9562 series Rev. A1.

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1st Edition,  
Nov. 2009

## Specifications

### Mechanical and Environmental

- **Dimension (mm):** 203 mm (L)\* 146 mm (W)
- **Height on Top (mm):**  
PCM-9562N-S6A1E: 15.4 mm (PCI slot)  
PCM-9562D-S6A1E: 25 mm (CPU Cooler)
- **Height on Bottom (mm):** 8.5 mm (CF socket)
- **Heatsink Dimension (mm):** 50\*50\*10 mm
- **Weight (g):** with Heatsink 800 g
- **Operating Temperature:** 0 ~ 60° C (32~140° F)
- **Operating Humidity:** 0% ~ 90% Relative Humidity, noncondensing
- **Storage Temperature:**  
Standard products: 0 ~ 60° C  
Storage temperature: -20 ~ 70° C
- **Storage Humidity:**  
Standard products: 0 ~ 60° C  
Relative humidity: 95% @ 60° C
- **Power Supply Voltage:**  
ATX:  
12 V ± 10%/ 5 VSB ± 5% (5 V stand-by power is only for auto power off function)  
AT:  
12 V ±10% only
- **Power Requirement:**  
PCM-9562N-S6A1E  
- Max (HCT): 13.9 W (1159 mA @ 12 V, 6 mA @ 5 VSB )  
- Typical (XP): 10.8 W (893 mA @ 12 V, 8 mA @ 5 VSB )  
PCM-9562D-S6A1E  
- Max (HCT): 16.9 W (1404 mA @ 12 V, 8 mA @ 5 VSB )  
- Typical (XP): 13.6 W (1130 mA @ 12 V, 10 mA @ 5 VSB )

## Jumpers and Connectors

The board has a number of jumpers that allow you to configure your system to suit your application. The table below lists the function of each of the jumpers and connectors.

Jumpers	
Label	Function
JP1	LCD Panel Power Select
JP2	VIO Select for PCI and PC104+ Slot
JP3	CMOS Clear
JP4	UART2 Mode Select
JP5	RS422/RS485 Select for COM4
JP6	RS422/RS485 Select for COM5
JP7	Mini PCIE Voltage Select

## Jumpers and Connectors

Connectors	
Label	Function
CN1	DDR2 SODIMM Socket
CN2	Audio CD-In Connector
CN4	Audio Connector
CN5	Power Connector
CN6	Inverter Connector
CN8	VGA Connector
CN9	LVDS Connector
CN10	LAN1 Connector
CN11	LAN1,2 LED Connector
CN12	LAN2 Connector
CN13	HDD LED and POWER LED Connector
CN14	LAN3 Connector
CN15	LPT / FDD Connector
CN16	Standby Power Connector
CN17	PC-104/+ Connector
CN18	LAN3 LED Connector
CN20	USB1/2 Connector
CN21	USB3/4 Connector
CN22	Reset Bottom Connector
CN23	Power Bottom Connector
CN24	SIR Connector
CN25	PS2 Keyboard/Mouse Connector
CN26	CF TYPEII Connector
CN28	USB5/6 Connector
CN29	USB7/8 Connector
CN30	Mini PCIE Slot
CN31	Mini PCIE Lock
CN32	SATA 1 Connector
CN33	SATA 2 Connector
CN34	SATA 3 Connector
CN35	GPIO1 Connector
CN36	GPIO2 Connector
CN37	SMBUS Connector
CN38	I2C Connector
CN39	COM1 Connector
CN40	COM2 Connector

## Jumpers and Connectors

CN41	COM3 Connector
CN42	COM4/5 (422/485) Connector
CN43	COM6 Connector
CN44	-V5 and -V12 Connector
CN45	SPI Flash Socket
FAN1	System Fan Connector
FAN2	CPU Fan Connector
PCI1	PCI SLOT

### Jumper Setting

JP1	LCD Panel Power Select
Part Number	1653003100
Footprint	PH_3x1V_2.54mm
Description	PIN HEADER 3*1P 180D(M) 2.54mm DIP WO/Pb
Setting	Function
(1-2)	+V5
(2-3)*	+V3.3

JP2	VIO Select for PCI and PC104+ Slot
Part Number	1653003100
Footprint	PH3x1P-2.54
Description	PIN HEADER 3*1P 180D(M) 2.54mm DIP WO/Pb
Setting	Function
(1-2)	+V5
(2-3)*	+V3.3

JP3	CMOS Clear
Part Number	1653003101
Footprint	HD_3x1P_79_D
Description	PIN HEADER 3*1P 180D(M) 2.0mm DIP SQUARE W/O Pb
Setting	Function
(1-2)*	Normal
(2-3)	Clear

## Jumpers and Connectors

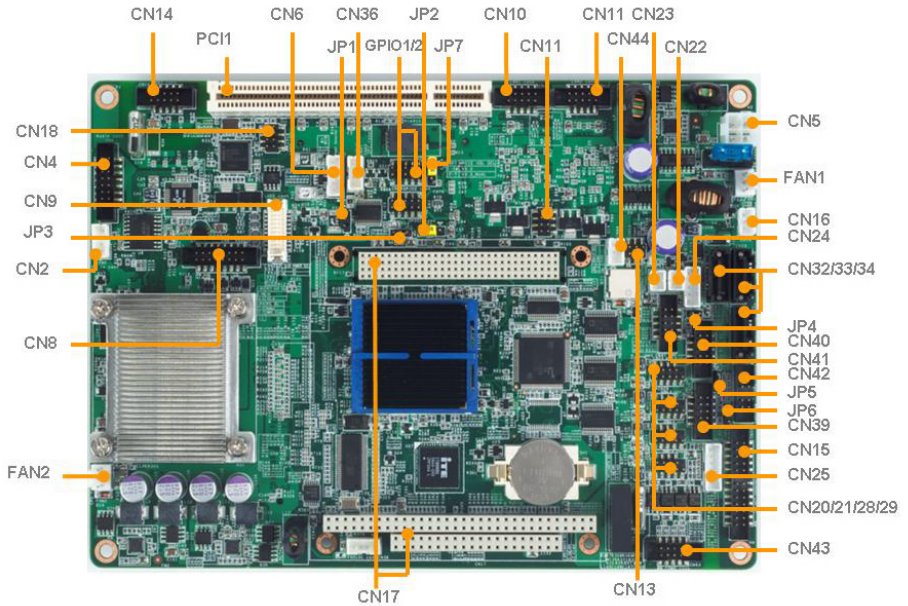
JP4	UART2 Mode Select
Part Number	1653002101
Footprint	HD_2x1P_79_D
Description	PIN HEADER 2*1P 180D(M) SQUARE 2.0mm DIP W/O Pb
Setting	Function
(1-2)	COM2
NL	IrDA

JP5	RS422 / RS485 Select for COM4
Part Number	1653003101
1653003101	HD_3x1P_79_D
Description	PIN HEADER 3*1P 180D(M) 2.0mm DIP SQUARE W/O Pb
Setting	Function
(1-2)*	COM4= RS485
(2-3)	COM4= RS422

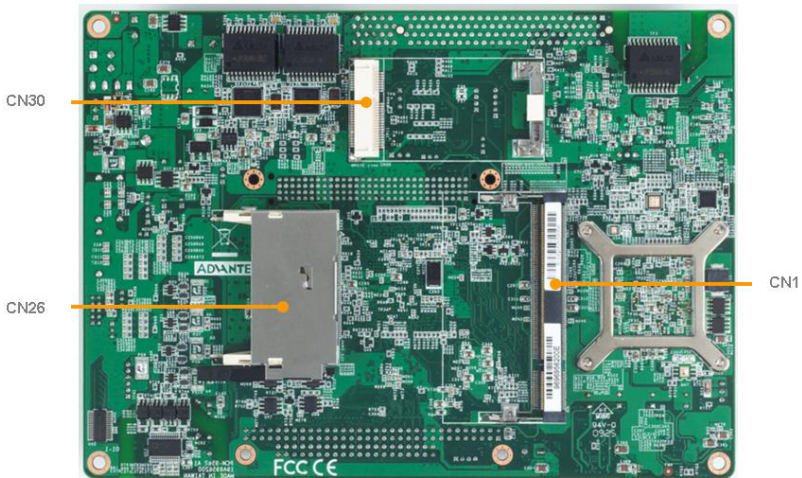
JP6	RS422 / RS485 Select for COM5
Part Number	1653003101
Footprint	HD_3x1P_79_D
Description	PIN HEADER 3*1P 180D(M) 2.0mm DIP SQUARE W/O Pb
Setting	Function
(1-2)*	COM5= RS485
(2-3)	COM5= RS422

JP7	Mini PCIE Voltage Select
Part Number	1653003100
Footprint	HD_3x1P_100_D
Description	PIN HEADER 3*1P 180D(M) 2.54mm DIP WO/Pb
Setting	Function
(1-2)*	+V3.3
(2-3)	+V3.3_DUAL

# PCM-9562 Jumpers and Connectors

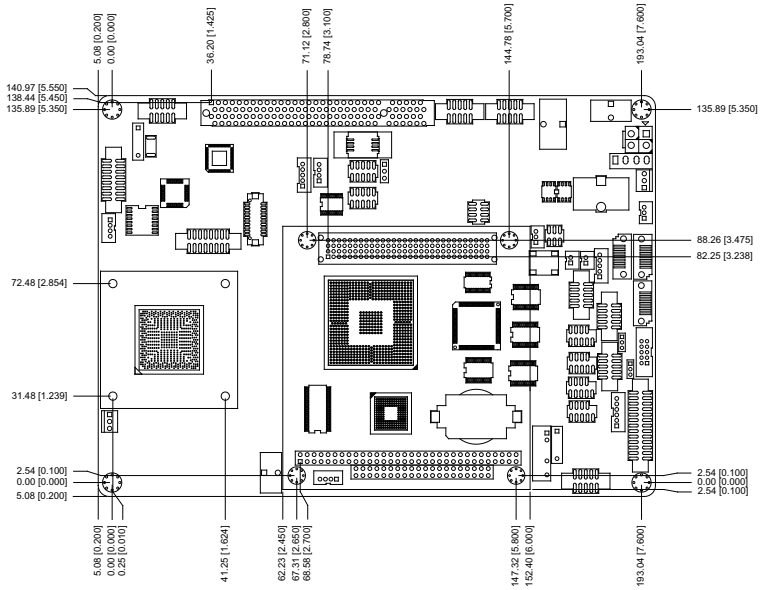


*PCM-9562 Jumper & Connectors (Component Side)*

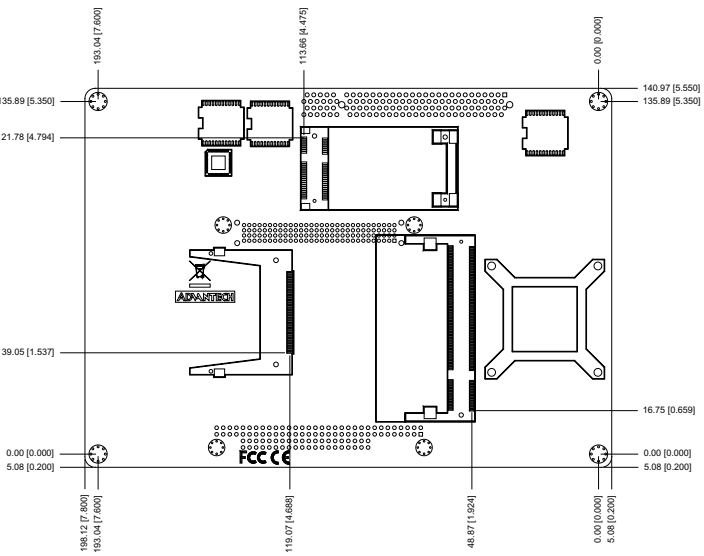


*PCM-9562 Jumper & Connectors (Solder Side)*

# PCM-9562 Dimension



*PCM-9562 Dimension (Top)*



*PCM-9562 Dimension (Bottom)*