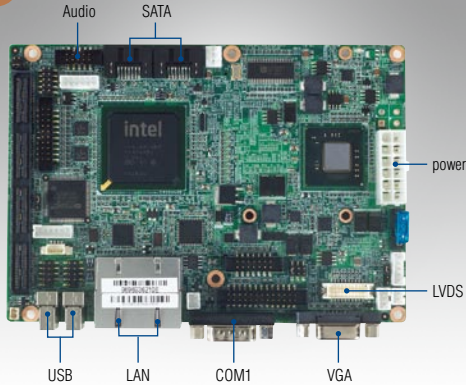


PCM-9362

Intel® Atom™ N450/ D510 3.5" SBC, LVDS, CRT, 2 Giga LAN, Mini PCIe, 4 COM

NEW



Features

- Embedded Intel® Atom™ processor N450 Single Core/ D510 Dual Core 1.66 GHz + ICH8M
- Intel Gen 3.5 DX9, MPEG2 Decode in HW, multiple display: CRT, 18-bit LVDS
- Supports 12 V input power for PCM-9362N/D, 5V input power for PCM-9362NC
- Supports 2 Intel Giga Ethernet ports; Rich I/O interfaces with 4 COM, 2 SATA, 6 USB and GPIO
- Supports embedded software APIs and utilities

Software APIs:



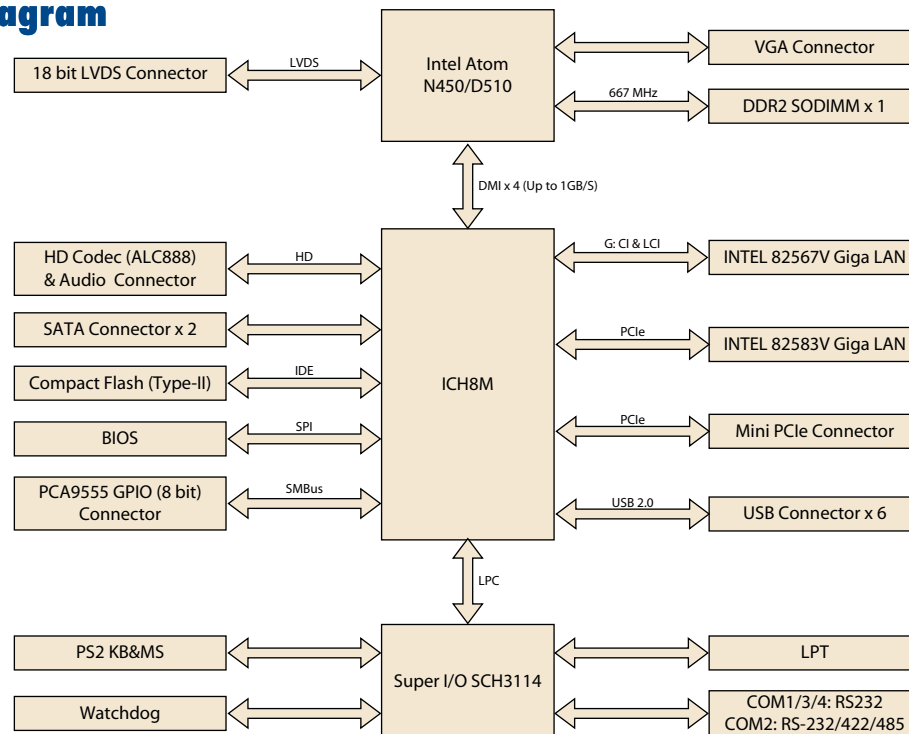
Utilities:



Specifications

Processor System	CPU	Intel Atom Processor, N450 Single Core 1.66 GHz Intel Atom Processor, D510 Dual Core 1.66 GHz
	Front Side Bus	667 MHz
	Frequency	1.66 GHz
	L2 Cache	512 KB/1 MB
	System Chipset	Intel N450/D510 + ICH8M
Memory	BIOS	AMI 16 Mbit Flash BIOS
	Technology	DDR2 667 MHz
	Max. Capacity	2 GB
Display	Socket	1 x 200-pin SODIMM
	Chipset	Intel Atom N450/D510 1.66 GHz
	VRAM	Optimized Shared Memory Architecture up to 224 MB system memory
	Graphics Engine	Intel Gen 3.5 DX9, MPEG2 Decode in HW Embedded Gen3.5+ GFX Core
	LVDS	LVDS: Single channel 18-bit LVDS up to WXGA 1366 x 768
	VGA	Intel Atom N450 Single Core up to 1400 x 1050 (SXGA) Intel Atom D510 Dual Core up to 2048 x 1536
Ethernet	Dual Display	CRT+LVDS
	Speed	10/100/1000 Mbps
	Controller	LAN1 Intel 82567V Giga LAN LAN2 Intel 82583V Giga LAN
Audio	Connector	RJ-45 on LAN1, LAN2
	Chipset	Realtek ALC888, High Definition Audio(HD), Line-in, Line out, Mic-in
WatchDog Timer		Output System reset, Programmable 1 ~ 255 sec
Storage	CompactFlash	Supports CompactFlash Card TYPE I/II (Primary Master IDE Channel)
	SATA	2
Rear I/O	Serial	1 (COM1 supports RS-232)
	Ethernet	2 (10/100/1000 Mbps)
	VGA	1
	USB	2
Internal I/O	USB	4 x USB 2.0 ports
	Serial	3 x COM ports COM3/COM4 supports RS-232 COM2 supports RS-232/422/485
	Parallel (LPT)	1
	KB/Mouse	1
	GPIO	8-bit GPIO
	I ² C	1
Expansion	Mini PCI Express	1
	MIO 160	1 (Optional by request)
Power	Power Type	AT/ATX
	Power Supply Voltage	AT: 5 V or 12 V, ATX: 5 V, 5 V sb (12 V is optional for LCD inverter and add on card) AT: 12 V, ATX: 12 V, 5 V sb
	Power Consumption (Typical)	PCM-9362NC-S6A1E: 5 V : 2.31 A PCM-9362N-S6A1E: 12 V : 0.87 A PCM-9362D-S6A1E: 12 V : 0.91 A
	Power Consumption (Max, test in HCT)	PCM-9362NC-S6A1E: 5 V : 2.36 A PCM-9362N-S6A1E: 12 V : 1.01 A PCM-9362D-S6A1E: 12 V : 1.17 A
	Power Management	APM, ACPI
	Battery	Lithium 3 V/210 mAh
Environment	Operational	0 ~ 60° C (32 ~ 140° F)
	Non-Operational	Operating: 0 ~ 60° C (32 ~ 140° F) (Operating humidity: 40° C @ 85% RH non-condensing) Non-Operating: -40° C ~ 85° C and 60° C @ 95% RH non-condensing
Physical Characteristics	Dimensions (L x W)	146 x 102 mm (5.7" x 4")
	Weight	0.85 kg (1.87 lb), weight of total package

Board Diagram



Ordering Information

Model	CPU	Power Input	CRT	LVDS	Giga LAN1	Giga LAN2	Audio	SATAII	USB 2.0	Mini-PCIe	CF	LPT	RS-232	RS-232/422/485	Thermal Solution	Operating Temperature
PCM-9362NC-S6A1E	Atom N450	5 V	1	1	Yes	Yes	HD	2	6	1	1	1	3	1	Passive	0 ~ 60° C
PCM-9362N-S6A1E	Atom N450	12 V	1	1	Yes	Yes	HD	2	6	1	1	1	3	1	Passive	0 ~ 60° C
PCM-9362D-S6A1E	Atom D510	12 V	1	1	Yes	Yes	HD	2	6	1	1	3	1	1	Active	0 ~ 60° C
PCM-9362NZ-1GS6A1E	Atom N450	12 V	1	1	Yes	Yes	HD	2	6	1	1	3	1	1	Passive	-20 ~ 80° C

Packing List

Part No.	Description	Quantity
	PCM-9362 SBC	
	Startup Manual	
	Utility CD	
9689000002	mini Jumper pack	x 1
1700000265	ATX Power Cable	x 1
1700006291	SATA Cable	x 1
1703060191	PS/2 cable	x 1
1701140201	COM2 IDE D-SUB 20 cm cable	x 1
1703100121	USB 2 x 5P-2.0 12 cm W/BKT cable	x 2
1703100152	Audio Cable	x 1
1700260250	LPT IDE 26P D-SUB 25 cm cable	x 1
1703150102	SATA 10 cm Power cable	x 1

Optional Accessories

(MIO interface is optional by request)

Part No.	Description
MIO-6254	MIO module w/DVI, S-Video, Audio
MIO-6255	MIO module w/2 x Cardbus
MIO-6260	MIO module w/4 x USB, 2 x COM, 1 x LAN
1700016161	AT Power cable, 2 x 6P to 3 x 4P 10 cm
1700016141	AT power cable, 2 x 6P to 2 x 10P 10 cm

Embedded OS/API

Embedded OS/API	Part No.	Description
Win XPE	2070009030	XPE WES2009 Luna Pier V4.0 ENG
	2070009031	XPE WES2009 Luna Pier V4.0 MUI24
Software API	205E362010	SUSI 3.0 SW API for PCM-9362 B: 20091117 XP

Value-Added Software Services

Software API: An interface that defines the ways by which an application program may request services from libraries and/or operating systems. Provides not only the underlying drivers required but also a rich set of user-friendly, intelligent and integrated interfaces, which speeds development, enhances security and offers add-on value for Advantech platforms. It plays the role of catalyst between developer and solution, and makes Advantech embedded platforms easier and simpler to adopt and operate with customer applications.

Software APIs

Control



GPIO

General Purpose Input/Output is a flexible parallel interface that allows a variety of custom connections. It allows users to monitor the level of signal input or set the output status to switch on/off a device. Our API also provides Programmable GPIO, which allows developers to dynamically set the GPIO input or output status.



SMBus

SMBus is the System Management Bus defined by Intel® Corporation in 1995. It is used in personal computers and servers for low-speed system management communications. The SMBus API allows a developer to interface a embedded system environment and transfer serial messages using the SMBus protocols, allowing multiple simultaneous device control.



I2C

I2C is a bi-directional two wire bus that was developed by Philips for use in their televisions in the 1980s. The I2C API allows a developer to interface with an embedded system environment and transfer serial messages using the I2C protocols, allowing multiple simultaneous device control.

Display



Brightness Control

The Brightness Control API allows a developer to interface with an embedded device to easily control brightness.



Backlight

The Backlight API allows a developer to control the backlight (screen) on/off in an embedded device.

Monitor



Watchdog

A watchdog timer (WDT) is a device that performs a specific operation after a certain period of time if something goes wrong and the system does not recover on its own. A watchdog timer can be programmed to perform a warm boot (restarting the system) after a certain number of seconds.



Hardware Monitor

The Hardware Monitor (HWM) API is a system health supervision API that inspects certain condition indexes, such as fan speed, temperature and voltage.



Hardware Control

The Hardware Control API allows developers to set the PWM (Pulse Width Modulation) value to adjust fan speed or other devices; it can also be used to adjust the LCD brightness.

Power Saving



CPU Speed

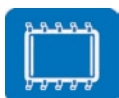
Make use of Intel SpeedStep technology to reduce power consumption. The system will automatically adjust the CPU Speed depending on system loading.



System Throttling

Refers to a series of methods for reducing power consumption in computers by lowering the clock frequency. These APIs allow the user to lower the clock from 87.5% to 12.5%.

Software Utilities



BIOS Flash

The BIOS Flash utility allows customers to update the flash ROM BIOS version, or use it to back up current BIOS by copying it from the flash chip to a file on customers' disk. The BIOS Flash utility also provides a command line version and API for fast implementation into customized applications.



Embedded Security ID

The embedded application is the most important property of a system integrator. It contains valuable intellectual property, design knowledge and innovation, but it is easily copied! The Embedded Security ID utility provides reliable security functions for customers to secure their application data within embedded BIOS.



Monitoring

The Monitoring utility allows the customer to monitor system health, including voltage, CPU and system temperature and fan speed. These items are important to a device; if critical errors happen and are not solved immediately, permanent damage may be caused.



eSOS

The eSOS is a small OS stored in BIOS ROM. It will boot up in case of a main OS crash. It will diagnose the hardware status, and then send an e-mail to a designated administrator. The eSOS also provides remote connection: Telnet server and FTP server, allowing the administrator to rescue the system.



Flash Lock

Flash Lock is a mechanism that binds the board and CF card (SQFlash) together. The user can "Lock" SQFlash via the Flash Lock function and "Unlock" it via BIOS while booting. A locked SQFlash cannot be read by any card reader or boot from other platforms without a BIOS with the "Unlock" feature.