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PCM-9389 Intel® Atom™ N455/D525 3.5” SBC, DDR3 SODIMM or on-board SDRAM, PC/104, 18/24-bit LVDS, VGA, 2 GbEs, 4 COMs, 4 USB, LPC, iManager 2.0 Startup Manual

Packing List

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

1.	1 PCM-9389 SBC	
2.	1 Startup Manual	
3.	1 Utility CD	
4.	1 Mini jumper pack	p/n: 9689000002
5.	1 AT power cable	p/n: 1700016141
6.	1 SATA cable	p/n: 1700006291
7.	1 PS/2 KB/Mouse	p/n: 1700060202
8.	1 Audio cable	p/n: 1700019584
9.	1 Ethernet cable	p/n: 1700017863
10.	2 USB 2 port cables	p/n: 1700018730
11.	1 COM3/4 cable	p/n: 1701200220
12.	1 COM2 RS-232 cable	p/n: 1700019414
13.	1 COM2 RS-422/485 cable	p/n: 1700019435

Remark:

ATX power cable is optional accessory p/n: 1700001112

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

Note 1: For detailed contents of PCM-9389, 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 (Acrobat is a trademark of Adobe)

For more information on this and other Advantech products, please visit our website at:

http://www.advantech.com

http://www.advantech.com/eplatform

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

http://service.advantech.com.tw/support/

This manual is for the PCM-9389 Series Rev. A1

Part No. 2006938900 1st Edition
Printed in China May 2012

Specifications

General

- **CPU:** Intel® Atom™ Processor N455 1.66 GHz / D525 1.8 GHz
- **System Chipset:** Intel® Atom™ N455/D525+ICH8M
- **System Memory:**
  - SODIMM: N455 for DDR3 667 MHz up to 2 GB, D525 for DDR3 800 MHz up to 4 GB
  - On-board: DDR3 667 MHz 1 GB
- **L2 Cache:** 512 KB for N455, 1 MB for D525 on die
- **BIOS:** AMI 16 Mbit Flash BIOS
- **Watchdog Timer:** Output system reset, programmable counter from 1-255 min/sec (set by iManager)
- **Expansion Interface:** PC/104, LPC
- **Battery:** Lithium 3 V / 210 mAH

Note: How to clear CMOS (Must follow steps below):

1. Turn off system power.
2. Unplug CR battery cable on BH1.
3. Waiting for 15sec or short BH1 pin1-2.
4. Plug battery cable on BH1.
5. Turn on system power.

- **Power management:** ACPI 3.0, APM
- **Serial ATA:** Two SATA ports supporting 300 MB/s
- **Serial port:** One rear I/O for RS-232 and three internal I/O for two RS-232 & one RS-232/422/485
- **PS/2 KB/Mouse:** Rear I/O connector
- **USB:** Four USB 2.0 compliant universal serial bus ports
- **Audio:** High Definition audio (HD), line-in, line-out, mic-in
- **GPIO:** 8-bit general purpose Input/Output (5 V tolerance)

CompactFlash® Card

- Supports one 50-pin socket for CFC type I/II

Display Interface

- **Controller:** Intel N455/D525, embedded Gen3.5 DX9
- **Memory:** 224 MB video RAM shared with system memory
- **Resolution:**
  - VGA: Intel® Atom™ N455 up to 1400 x 1050 (SXGA) Intel® Atom™ D525 up to 2048 x 1536
  - LVDS: Single channel 18/24-bit LVDS up to WXGA 1366 x 768
  - TTL: 18-bit TTL (Supported by T-P/N)
- **Dual Display:** VGA+LVDS (if T-P/N with TTL, VGA+TTL is supported)

Specifications

Ethernet Interface

- **Controller:**
  - LAN1 for ICH8M+Intel 82567V GbE
  - LAN2 for Intel 82583V GbE

Mechanical and Environmental

- **Dimensions:** 146 x 102 mm (5.7" x 4")
- **Power Supply Type:** AT/ATX
- **Power Requirement:** 5 V input
- **Power Consumption:**
  - Typical

    N455: 1.63A @5V (8.15W)

    D525: 1.94A @5V (9.7W)
  - Max in HCT:

    N455: 2.23A @5V (11.15W)

    D525: 2.9A @5V (14.5W)
- **Operating Temperature:** 0 ~ 60° C (32 ~ 140° F)
- **Weight:** 0.64 kg (reference weight of total package)

Caution



The computer is provided with a battery-powered real-time clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacturer. Discard used batteries according to manufacturer's instructions.

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**
J1	AT/ATX power supply
J2	COM2 RS-232/422/485 switch
J3	LCD Power

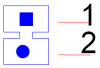
Jumpers and Connectors

Connectors	
Label	**Function**
CN1	AT/ATX Power Input
CN3	DDR3 SODIMM socket
CN7	Power Switch
CN8	GPIO
CN9	VGA
CN10	CF socket
CN11	HDD & PWR LED
CN12	SATA
CN13	SATA
CN14	USB
CN15	USB
CN16	COM1
CN17	COM2: RS-232
CN18	COM2: RS-422/485
CN19	COM3/COM4
CN20	LPC
CN21	PS/2
CN22	SMBus
CN23	CPU FAN
CN24	LAN1 (External)
CN25	LAN2 (Internal)
CN26	Audio
CN27	PC/104
CN28	ISA -5 V & -12 V Input
CN29	Inverter Power Output
CN30	LVDS
CN31	TTL (by request)

Jumpers Settings

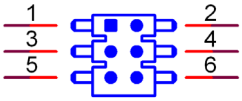
J1	AT/ATX Power Supply
Part Number	1653002101
Footprint	HD_2x1P_79_D
Description	PIN HEADER 2*1P 180D(M)SQUARE 2.0mm DIP W/O Pb
Setting	Function
NC	ATX
(1-2)*	AT

*: default



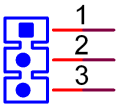
J2	COM2 RS-232/422/485 switch
Part Number	1653003260
Footprint	HD_3x2P_79
Description	PIN HEADER 3x2P 2.0mm 180D(M) SMD 21N22050
Setting	Function
(1-2)*	RS232
(3-4)	RS485
(5-6)	RS422

*: default



J3	LCD Power
Part Number	1653003101
Footprint	HD_3x1P_79_D
Description	PIN HEADER 3x1P 2.0mm 180D(M) DIP 2000-13 WS
Setting	Function
(1-2)	+5 V
(2-3)*	+3.3 V

*: default



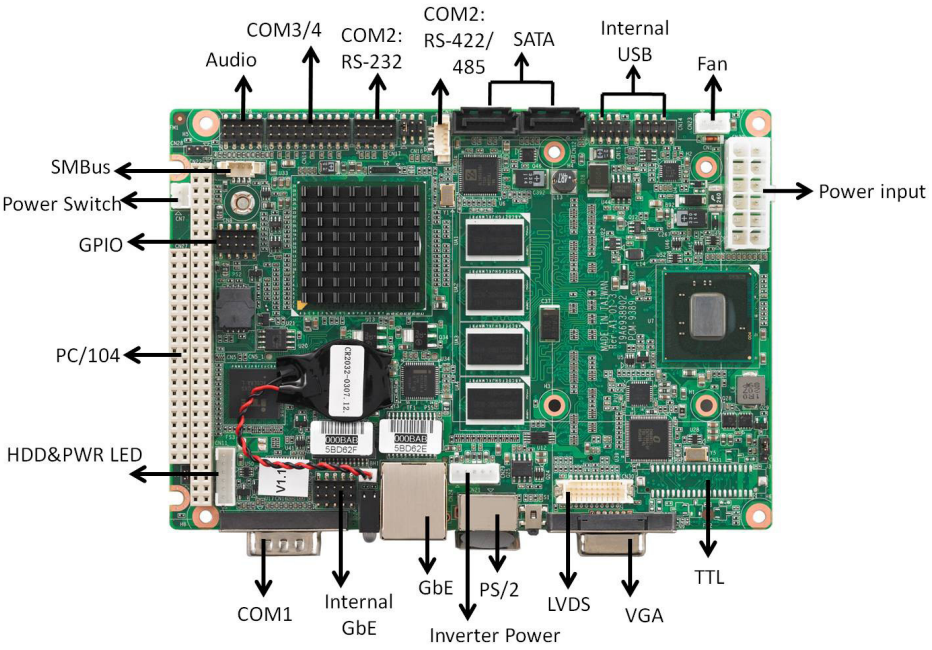


Figure 1: PCM-9389 Jumpers and Connectors (Component Side)

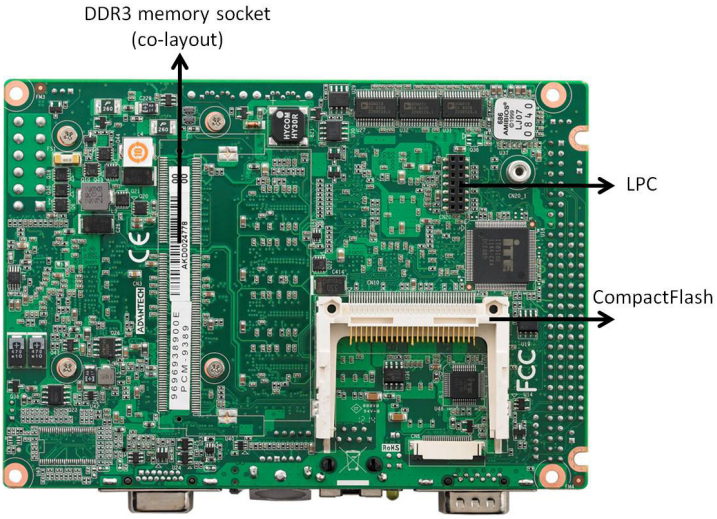


Figure 2: PCM-9389 Jumpers and Connectors (Solder Side)

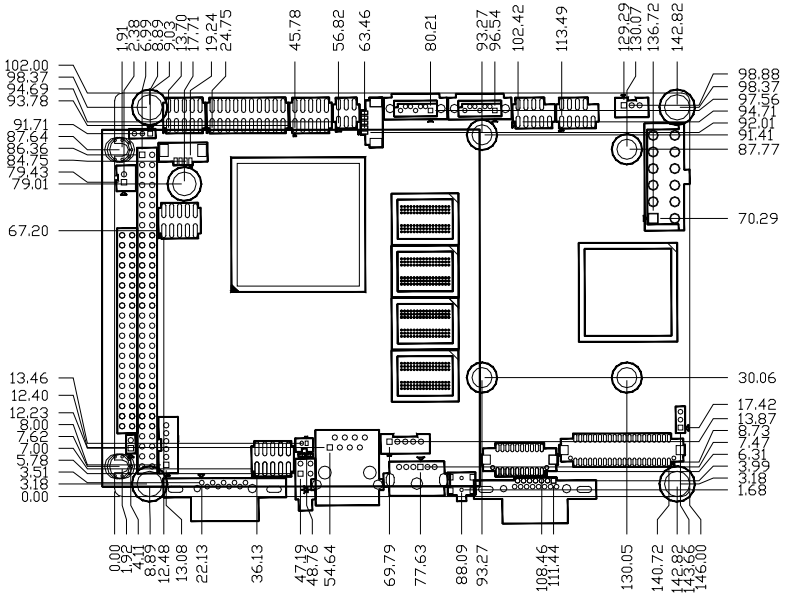


Figure 3: PCM-9389 Mechanical Drawing (Component Side)

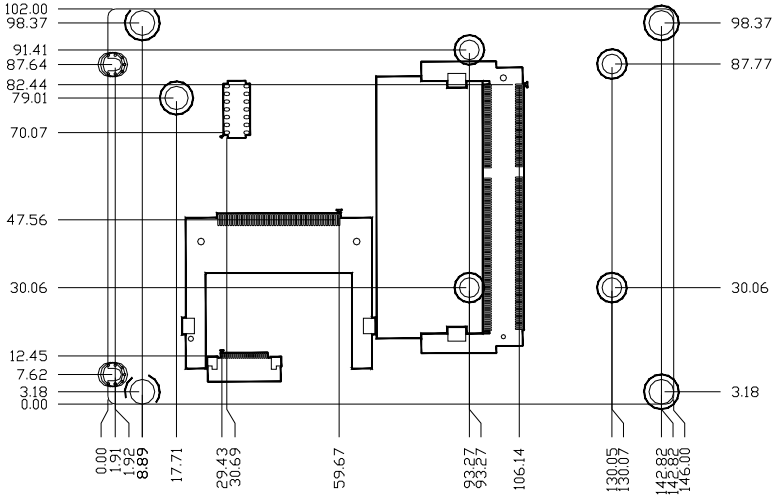


Figure 4: PCM-9389 Mechanical Drawing (Solder Side)

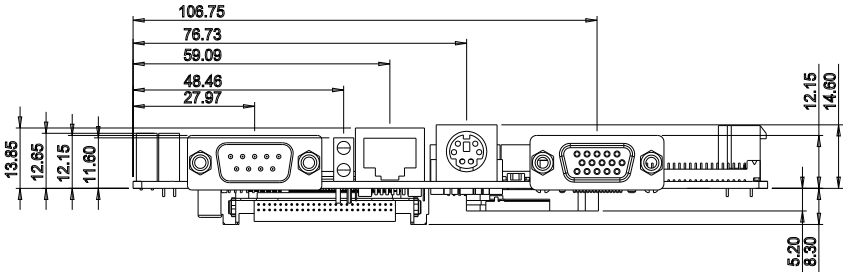


Figure 5: PCM-9389 Mechanical Drawing (Side View)

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