



User Manual

PCM-9342

Trusted ePlatform Services

AVANTECH

Copyright

This document is copyrighted, © 2008. All rights are reserved. The original manufacturer reserves the right to make improvements to the products described in this manual at any time without notice.

No part of this manual may be reproduced, copied, translated or transmitted in any form or by any means without the prior written permission of the original manufacturer. Information provided in this manual is intended to be accurate and reliable. However, the original manufacturer assumes no responsibility for its use, nor for any infringements upon the rights of third parties that may result from such use.

Acknowledgements

Award is a trademark of Award Software International, Inc.

VIA is a trademark of VIA Technologies, Inc.

IBM, PC/AT, PS/2 and VGA are trademarks of International Business Machines Corporation.

Intel and Pentium are trademarks of Intel Corporation.

Microsoft Windows® is a registered trademark of Microsoft Corp.

RTL is a trademark of Realtek Semi-Conductor Co., Ltd.

ESS is a trademark of ESS Technology, Inc.

UMC is a trademark of United Microelectronics Corporation.

SMI is a trademark of Silicon Motion, Inc.

Creative is a trademark of Creative Technology LTD.

CHRONTEL is a trademark of Chrontel Inc.

All other product names or trademarks are properties of their respective owners.

Product Warranty (2 years)

Warranty Period

ADVANTECH aims to meet the customer's expectations for post-sales service and support; therefore, in addition to offering 2 years global warranty for ADVANTECH's standard products, a global extended warranty service is also provided for customers upon request. ADVANTECH customers are entitled to a complete and prompt repair service beyond the standard 2 years of warranty.

Standard products manufactured by ADVANTECH are covered by a 2 year global warranty from the date of shipment. Products covered by extended warranty and cross-region repair services against defects in design, materials, and workmanship, are also covered from the date of shipment. All key parts assembled into ADVANTECH system products such as LCD, Touch Screen, Power Supply, and peripherals etc, will be also covered by the standard 2 year warranty.

Repairs under Warranty

It is possible to obtain a replacement (Cross-Shipment) during the first 30 days of purchase (45 days for Channel Partners), if the products were purchased directly from ADVANTECH and the product is DOA (Dead-on-Arrival).

DOA Cross-Shipment excludes any customized and/or build-to-order products. The Cross-Shipment agreement signed by customers is required for initiating/releasing cross shipment with ADVANTECH confirmation and verification. The only conditions for Cross-Shipment are: a) the return must not be damaged, altered or marked, b) all parts and accessories must be included as originally shipped; and c) proof of purchase must be included. Any returns that do not meet mentioned requirements above, or any wrong user settings/configurations will be denied, or subject to additional handling/service charges as determined by the ADVANTECH Repair Service Department.

For those products which are not DOA, the return fee to an authorized ADVANTECH repair facility will be at the customers' expense. The shipping fee for reconstructive products from ADVANTECH back to customers' sites will be at ADVANTECH's expense.

Exclusions from Warranty

- The product is excluded from warranty if:
- The product has been found to be defective after expiry of the warranty period.
- Warranty has been voided by removal or alternation of product or part identification labels.
- The product has been misused, abused, or subjected to unauthorized disassembly/modification; placed in an unsuitable physical or operating environment; improperly maintained by the customer; or failure caused which ADVANTECH is not responsible whether by accident or other cause. Such conditions will be determined by ADVANTECH at its sole unfettered discretion.
- The product is damaged beyond repair due to a natural disaster such as a lightning strike, flood, earthquake, etc.
- Product updates/upgrades and tests upon the request of customers who are without warranty.

Declaration of Conformity

FCC

This device complies with the requirements in part 15 of the FCC rules: Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this device in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense. The user is advised that any equipment changes or modifications not expressly approved by the party responsible for compliance would void the compliance to FCC regulations and therefore, the user's authority to operate the equipment.

Caution! *There is a danger of a new battery exploding if it is incorrectly installed. Do not attempt to recharge, force open, or heat the battery. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.*



Technical Support and Assistance

For more information about 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://support.advantech.com.tw/support/>

Additional Information and Assistance

1. Visit the Advantech web site at <http://www.advantech.com/> where you can find the latest product information.
2. Contact your distributor, sales representative, or Advantech's customer service center for technical support if you need additional assistance. Please have the following information ready before you call:
 - Product name and serial number
 - Description of your peripheral attachments
 - Description of your software (operating system, version, application software, etc.)
 - A complete description of the problem
 - The exact wording of any error messages

Packing List

Before installation, please ensure the following items have been shipped:

- Item Part Number
- 1 PCM-9342 SBC
- 1 Startup manual
- 1 Utility CD
- 1 mini jumper pack
- Cables

Part Number	Description
1700008894	1 SATA cable
1700060202	1 PS/2 Y cable
1700100250	2 COM3/COM4 cable
1700260250	1 x LPT port cable
1701140201	1 COM2 cable
1703100121	1 USB 2 port cable

Optional accessories

Model Number	Description
1700001531	1 Floppy cable

Ordering information

Model Number	Description
PCM-9342F-64A1E	EVA-X4150 SBC, 64 MB, VGA, LCD, PC/104
PCM-9342L-64A1E	EVA-X4150 SBC, 64 MB, w/o Graphic, PC/104

Contents

Chapter 1	General Introduction	1
1.1	Introduction	2
1.2	Product Feature	2
	1.2.1 General	2
	1.2.2 I/O	2
	1.2.3 Ethernet	2
	1.2.4 Display	2
1.3	Chipset	3
	1.3.1 Functional Specification	3
	1.3.2 Mechanical Specification	4
	1.3.3 Electrical Specification	4
	1.3.4 Environmental Specification	5
Chapter 2	H/W Installation	7
2.1	Jumpers	8
	2.1.1 Jumper list	8
	2.1.2 Jumper Settings	8
	2.1.3 Jumper description	10
2.2	Connectors	11
	2.2.1 Connector list	11
	2.2.2 Connector Settings	11
2.3	Mechanical	14
	2.3.1 Jumper and Connector Location	14
	Figure 2.1 Jumper and Connector Layout (Component Side) ...	14
	Figure 2.2 Jumper and Connector Layout (Solder Side)	14
	2.3.2 Board Dimension	15
	Figure 2.3 Board Dimension Layout (Component Side)	15
	Figure 2.4 Board Dimension Layout (Solder Side)	15
	Figure 2.5 Board Dimension Layout (Side)	16
Chapter 3	BIOS Operation	17
3.1	BIOS Introduction	18
3.2	BIOS Setup	18
	3.2.1 Main Menu	19
	3.2.2 Standard CMOS Features	20
	3.2.3 Advanced BIOS Features	21
	3.2.4 Advanced Chipset Features	22
	3.2.5 Integrated Peripherals	23
	3.2.6 PC Health Status	24
	3.2.7 Load Optimized Defaults	25
	3.2.8 Set Password	25
	3.2.9 Save & Exit Setup	27
	3.2.10 Quit Without Saving	27
Chapter 4	PC/104	29
4.1	PC/104	30
Appendix A	Pin Assignments	31

A.1	VGA (CN5).....	32
	Table A.1: CN5	32
A.2	SATA (CN6).....	33
	Table A.2: CN6	33
A.3	SATA (CN7).....	34
	Table A.3: CN7	34
A.4	Internal USB (CN9).....	35
	Table A.4: CN9	35
A.5	COM2 (CN11).....	36
	Table A.5: CN11	36
A.6	LPT (CN12).....	37
	Table A.6: CN12	37
A.7	COM3 (CN14).....	38
	Table A.7: CN14	38
A.8	COM4 (CN15).....	39
	Table A.8: CN15	39
A.9	24 bits TTL Panel (CN16).....	40
	Table A.9: CN16	40
A.10	24 bits TTL Panel (CN16).....	41
	Table A.10:CN16	41
A.11	Inverter Power Output (CN17)	42
	Table A.11:CN17	42
A.12	18 bits LVDS Panel (CN18)	43
	Table A.12:CN18	43
A.13	LAN (CN19)	44
	Table A.13:CN19	44
A.14	ISA -5 V & -12 V Input (CN20).....	45
	Table A.14:CN20	45
A.15	PC104 (CN21)	46
	Table A.15:CN21	46
	Table A.16:CN21	47
	Table A.17:CN21	48
	Table A.18:CN21	49
A.16	AT Power Input (CN25).....	50
	Table A.19:CN25	50
A.17	GPIO (CN32)	51
	Table A.20:CN32	51
A.18	Battery (CN33).....	52
	Table A.21:CN33	52
A.19	PS2 (CN34).....	53
	Table A.22:CN34	53
A.20	CF (CN35).....	54
	Table A.23:CN35	55
A.21	COM1 (CN36).....	56
	Table A.24:CN36	56

Appendix B Watchdog Timer 57

B.1	Watchdog Timer Sample Code.....	58
-----	---------------------------------	----

Chapter 1

General Introduction

This chapter gives background information on the PCM-9342.

Sections include:

- Introduction
- Specifications

1.1 Introduction

The PCM-9342 is an 3.5" SBC (Single Board Computer) with low power based on Advantech EVA-X4150 SoC (System on Chip). The PCM-9342, in conjunction with EVA-X4150 SoC and onboard 64MB SDRAM, supports two USB 2.0 compatible ports, one 10/100Base-T Ethernet interface, LVDS and TTL interface, and one PC/104 expansion connector. The PCM-9342 also supports two SATA (transfer from IDE) and four COM ports.

1.2 Product Feature

1.2.1 General

- **CPU:** Advantech EVA-X4150 SoC
- **System Chipset:** Advantech EVA-X4150 SoC
- **BIOS:** AWARD® 4 Mbit Flash BIOS
- **System Memory:** 64MB onboard SDRAM
- **SSD:** Supports CompactFlash® Card TYPE I/II (shared 1st IDE Channel)
- **Watchdog Timer:** Single chip Watchdog 255-level interval timer, setup by software
- **Expansion Interface:** Supports 8/16 bit ISA bus for standard PC/104 device
- **Battery:** 2-pin wafer box for external Battery on board I/O

1.2.2 I/O

- **I/O Interface:** 2 x SATA (100MB/S Transfer from IDE), 1 x KB/mouse, 3 x RS232, 1 x RS232/422/485, 1 x LPT, 1 x FDD(share with LPT)
- **USB:** 2 x USB 2.0 compliant Ports
- **IrDA:** N/A
- **GPIO:** 8-bit general purpose input/output

1.2.3 Ethernet

- **Chipset:** Realtek RTL 8100CL
- **Speed:** 10/100 Mbps
- **Interface:** 1 x RJ45
- **Standard:** IEEE 802.3/802.3u compliant

1.2.4 Display

- **Chipset:** SMI SM712 2D graphic Chip (built-in 4MB display memory)
- **Memory Size:** Built-in 4MB display memory on SMI SM712
- **Resolution:** CRT Display mode: pixel resolution up to 1024 x 768 at 85-Hz and 1024 x 768 at 75-Hz LCD Display mode
- **LCD Interface:** 1 x 24-bit TTL (Alternative with LVDS)
- **LVDS:** 1x18-bit LVDS (Alternative with TTL)
- **Dual Simultaneous Display:** CRT+TTL or CRT + LVDS

1.3 Chipset

1.3.1 Functional Specification

1.3.1.1 Processor Chipset

	Advantech Em'Core EVA-X4150 SoC
Processor	<ul style="list-style-type: none"> ■ Embedded 32-bit X86-based SoC ■ Build-in PCI, ISA, IDE, Ethernet Mac,USB on Chip ■ Operating frequency 133 MHz ■ Core Voltage: 1.8 V \pm 5% ■ Power consumption approximates 0.8 Watt
	27 mm * 27 mm * 2.23 mm PBGA 456balls

1.3.1.2 Other Chipsets

Graphic and Video Controllers	<p>SMI SM712 2D graphic Chip</p> <ul style="list-style-type: none"> ■ CRT:SMI 2D graphic chip supports 1024 x 768 @ 24 bit true color ■ TTL: SMI 2D graphic chip supports 1024 x 768 @ 18 bit TFT LCD Panel ■ LVDS:TTL to 18 bit LVDS <p>LVDS connector: Hirose DF13 type 20 pin TTL connector: Hirose DF13 type 40 pin CRT connector: D-SUB15 at coastline</p>
LAN	<p>Realtek RTL 8100CL</p> <ul style="list-style-type: none"> ■ Integrated IEEE 802.3/802.3u compliant ■ Support 10 Mbps/100 Mbps <p>Connectors: Phone Jack RJ45 8P 90D(F)</p>
Serial Ports	<p>Advantech EV-X4150 SoC and SMSC SCH 3114 supports (LPC Super I/O).</p> <ul style="list-style-type: none"> ■ 2 full function serial ports by EVA-X4150 SoC ■ 2 full function serial ports by SMSC SCH 3114 ■ High Speed NS16C550A Compatible UARTs with Data rates to 1.5 Mbps ■ Support IRQ Sharing among serial ports <p>Connectors: COM1: (RS-232) 1x DB9 at coastline COM2: (RS-232/422/485) 1 x 2.0 mm box header COM3~4: (RS-232) 2 x 2.0 mm box header</p>
Parallel Port	<p>SMSC SCH 3114 supports (LPC Super I/O)</p> <ul style="list-style-type: none"> ■ One Parallel Port. ■ SPP/EPP (1.7,1.9) / ECP (IEEE 1284 Compliant) mode. <p>Connector: Box header 13 * 2P (M) 2.0 mm</p>

Keyboard/Mouse Connectors	SMSC SCH 3114 supports (LPC Super I/O) PS/2 Keyboard and Mouse interface Connector: Mini-Din 6P at coastline
GPIO	SMSC SCH 3114 supports (LPC Super I/O) ■ 8 I/O Pins ■ 5 V tolerance I/Os
	Connectors: 10 pins 2.0 mm pin header
Battery Backup	2 pin wafer box for external Battery on board

1.3.2 Mechanical Specification

1.3.2.1 Dimension(mm)

L146.12 mm * W101.57 mm

1.3.2.2 Height on Top(mm)

13 mm (PS/2 Connector)

1.3.2.3 Height on Bottom(mm)

8.1 mm (CF Socket)

1.3.2.4 Weight

Net weight: 137 g

Gross weight: 453 g

1.3.3 Electrical Specification

1.3.3.1 Power Supply Voltage

Voltage requirement with AT Power:

+12 V DC +/-5%

+5 V DC +/-5%

1.3.3.2 Power Supply Current

Supply Current (Typical)

CPU: Advantech Em'Core EVA-X4150 RAM:133 MHz 64 MB SDRAM

	AT		
	5 V	12 V	3.3 V
DOS	1.18 A	0 A	0 A

1.3.3.3 RTC Battery

Typical Voltage: 3.0 V

Normal discharge capacity: 210 mAh

1.3.4 Environmental Specification

1.3.4.1 Operating Humidity

0% ~ 90% Relative Humidity, non-condensing

1.3.4.2 Operating temperature

Operating temperature: 0 ~ 60° C (32 ~ 140° F)

1.3.4.3 Storage Humidity

Standard products (0~60° C)

Relative Humidity: 95% @ 60° C

1.3.4.4 Storage temperature

Standard products (0~60° C)

Storage temperature: -20 ~ 70° C

Chapter 2

H/W Installation

This chapter explains the setup procedures of the PCM-9342 hardware, including instructions on setting jumpers and connecting peripherals, switches, indicators and mechanical drawings. Be sure to read all safety precautions before you begin the installation procedure.

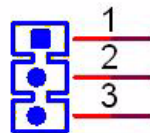
2.1 Jumpers

2.1.1 Jumper list

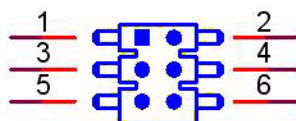
J1	LCD Power
J2	COM2 Setting
J3	HDD & PWR LED Setting
J4	CPU CLK Setting
J5	CPU CLK Setting
J6	CPU CLK Setting

2.1.2 Jumper Settings

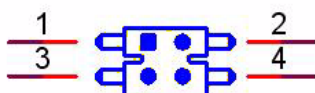
J1	LCD Power
Part Number	1653003101
Footprint	JH3X1V-2M
Description	PIN HEADER 3*1P 180D(M) 2.0mm DIP SQUARE W/O Pb
Setting	Function
(1-2)	+5 V
(2-3)*	+3.3 V
*: Default	



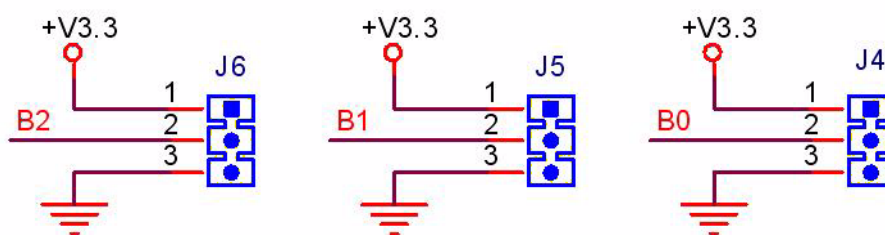
J2	COM2 Setting
Part Number	1653003260
Footprint	JH3X2S-2M
Description	PIN HEADER 3*2P 180D(M) 2.0mm SMD SQUARE PIN
Setting	Function
(1-2)*	RS232
(3-4)	RS485
(5-6)	RS422
*: Default	



J3	HDD & PWR LED Setting
Part Number	1653000014
Footprint	JH2X2S-2M
Description	PIN HEADER 2*2P 180D SMD MALE SQUARE 2.00mm
Setting	Function
(1-2) (3-4)*	IDE (Yellow) Power (Green)
(1-3) (2-4)	IDE(Green) Power (Yellow)
*: Default	

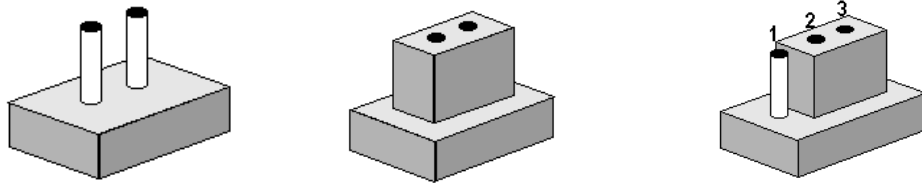


J4-J6	CPU CLK Setting
Part Number	1653003101
Footprint	JH3X1V-2M
Description	PIN HEADER 3*1P 180D(M) 2.0mm DIP SQUARE W/O Pb
Setting	Function
(2-3)(2-3)(2-3)	66MHz CPU/SDRAM Frequency
(2-3)(2-3)(1-2)	100 MHz
(2-3)(1-2)(2-3)*	133 MHz
(2-3)(1-2)(1-2)	150 MHz w 37.5 MHz PCI
(1-2)(2-3)(2-3)	150 MHz w 30 MHz PCI
(1-2)(2-3)(1-2)	166 MHz
*: Default	

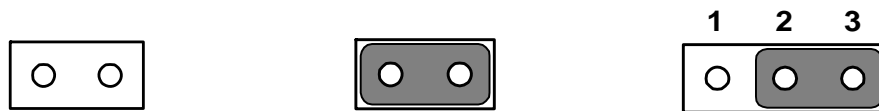


2.1.3 Jumper description

You may configure your card to match the needs of your application by setting jumpers. A jumper is a metal bridge used to close an electric circuit. It consists of two metal pins and a small metal clip (often protected by a plastic cover) that slides over the pins to connect them. To .close. a jumper, you connect the pins with the clip. To .open. a jumper, you remove the clip. Sometimes a jumper will have three pins, labeled 1, 2 and 3. In this case you would connect either pins 1 and 2, or 2 and 3.



The jumper settings are schematically depicted in this manual as follows.



A pair of needle-nose pliers may be helpful when working with jumpers. If you have any doubts about the best hardware configuration for your application, contact your local distributor or sales representative before you make any changes. Generally, you simply need a standard cable to make most connections.

Setting	Function
1-2	+5 V
2-3	+3.3 V

Warning! *To avoid damaging the computer, always turn off the power supply before setting .Clear CMOS. Before turning on the power supply, set the jumper back to .3.0 V Battery On.*



2.2 Connectors

2.2.1 Connector list

CN5	VGA
CN6	SATA
CN7	SATA
CN9	Internal USB
CN11	COM2
CN12	LPT
CN14	COM3
CN15	COM4
CN16	24 bits TTL Panel
CN17	Inverter Power Output
CN18	18 bits LVDS Panel
CN19	LAN
CN20	ISA -5V & -12V Input
CN21	PC104
CN25	AT Power Input
CN32	GPIO
CN33	Battery
CN34	PS2
CN35	CF
CN36	COM1

2.2.2 Connector Settings

2.2.2.1 VGA/LCD/LVDS interface connections

The board's PCI VGA interface can drive conventional CRT displays and is capable of driving a wide range of flat panel displays, including passive LCD and active LCD displays. The board has connectors to support these displays: one for standard CRT VGA monitors, one for flat panel displays, and one for LVDS type LCD panels.

2.2.2.2 CRT display connector (CN5)

The CRT display connector is a 15-pin D-SUB connector used for conventional CRT displays.

2.2.2.3 SATA Connector (CN6, CN7)

PCM-9342 supports Serial ATA via two connectors (CN6, CN7). Data transfer rates up to 100 MB/s are possible, enabling very fast data and file transfer, and independent DMA operation on two ports.

2.2.2.4 USB connectors (CN9)

The board provides up to two USB (Universal Serial Bus) ports. This gives complete plug and play capability. The USB interfaces comply with USB specification Rev. 2.0 which supports 480 Mbps transfer rate, and are fuse protected 5 x 2 pin 180D (M) connectors for internal 2 x USB connectors at CN9. You will need an adapter cable if you use a standard USB connector. The adapter cable has a 5 x 2-pin connector with foolproof protection for incorrect plug-in on one end and a USB connector on the other.

2.2.2.5 Parallel port connector (CN12)

Normally, the parallel port is used to connect the card to a printer. The board includes a multi-mode (ECP/EPP/SPP) parallel port accessed via CN12 and a 26-pin flat-cable connector. You will need an adapter cable if you use a traditional DB-25 connector. The adapter cable has a 26-pin connector on one end, and a DB-25 connector on the other.

The parallel port is designated as LPT1, and can be disabled in the system BIOS setup.

The parallel port interrupt channel is designated to be IRQ7.

You can select ECP/EPP DMA channel via BIOS setup.

2.2.2.6 TTL LCD panel connector (CN16)

The board supports 24bit TTL LCD panel displays.

Users can connect to an 24bit TTL LCD on it.

2.2.2.7 LVDS LCD panel connector (CN18)

The board supports 18bit LVDS LCD panel displays.

Users can connect to an 18bit LVDS LCD on it.

2.2.2.8 COM port connector (CN11, CN14, CN15, CN36)

The PCM-9342 provides 4 serial ports (COM1, COM3 & COM4: RS-232; COM2: RS-232/422/485) in one DB-9 connector (CN36) for COM1 and one 7*2P pin header (CN11) for COM2 and two 5*2P pin header (CN14, CN15) for COM3 & COM4. It provides connections for serial devices (a mouse, etc.) or a communication network. You can find the pin assignments for the COM port connector in Appendix A.

2.2.2.9 COM RS-232/422/485 setting (J2)

COM2 can be configured to operate in RS-232, RS-422, or RS-485 mode.

This is done via J2.

J2	COM2 Setting
Setting	Function
(1-2)	RS232
(3-4)	RS485
(5-6)	RS422

2.2.2.10 Ethernet configuration

The board is equipped with 1 high performance 32-bit PCI-bus Ethernet interface which is fully compliant with IEEE 802.3 10/100Mbps. It is supported by all major network operating systems.

2.2.2.11 100Base-T connector (CN19)

100Base-T connections are made via the on-board RJ-45 connector.

2.2.2.12 PC/104 Connector (CN21)

PCM-9342 supports full ISA compatible functions via PC/104 connector (CN21).

Socket2: 20 x 2 (F) 2.54 mm 51.86 mm x 5.01 mm x 11.45 mm p = 3.40 mm

Socket3: 32 x 2 (F) 2.54 mm 82.34 mm x 5.01 mm x 11.45 mm p = 3.40 mm

PC/104 negative voltage: One 3 x 1-pin wafer box (CN20) supports -5 V/-12 V power input for ISA devices.

2.2.2.13 Power connectors

Main power connector, +5 V, +12 V (CN25).

Supplies main power to the PCM-9342 (+5 V), and to devices that require +12 V.

2.2.2.14 **GPIO (General Purpose Input Output) (CN32)**

The board supports 8-bit GPIO through GPIO connector. The 8 digital in and out-puts can be programmed to read or control devices, with input or output defined. The default setting is 4 bits input and 4 bits output.

2.2.2.15 **Keyboard and PS/2 mouse connector (CN34)**

The board provides a keyboard connector that supports both a keyboard and a PS/2 style mouse. In most cases, especially in embedded applications, a keyboard is not used. If the keyboard is not present, the standard PC/AT BIOS will report an error or fail during power-on self-test (POST) after a reset. The product's BIOS standard setup menu allows you to select "All, But Keyboard" under the "Halt On" selection. This allows no-keyboard operation in embedded system applications, without the system halting under POST.

2.2.2.16 **Solid State Disk**

The board provides a CompactFlash card type I/II socket.

CompactFlash (CN35)

The CompactFlash card shares a secondary IDE channel which can be enabled/disabled via the BIOS settings.

Compact Flash set as fix master mode.

2.2.2.17 **Power & HDD LED Indicator (D1)**

The HDD LED indicator for hard disk access is an active low signal (24mA sink rate). Power supply activity LED indicator.

2.2.2.18 **Power Reset button (SW1)**

Momentarily pressing the reset button will activate a reset. The switch should be rated for 10 mA, 5 V.

2.3 Mechanical

2.3.1 Jumper and Connector Location

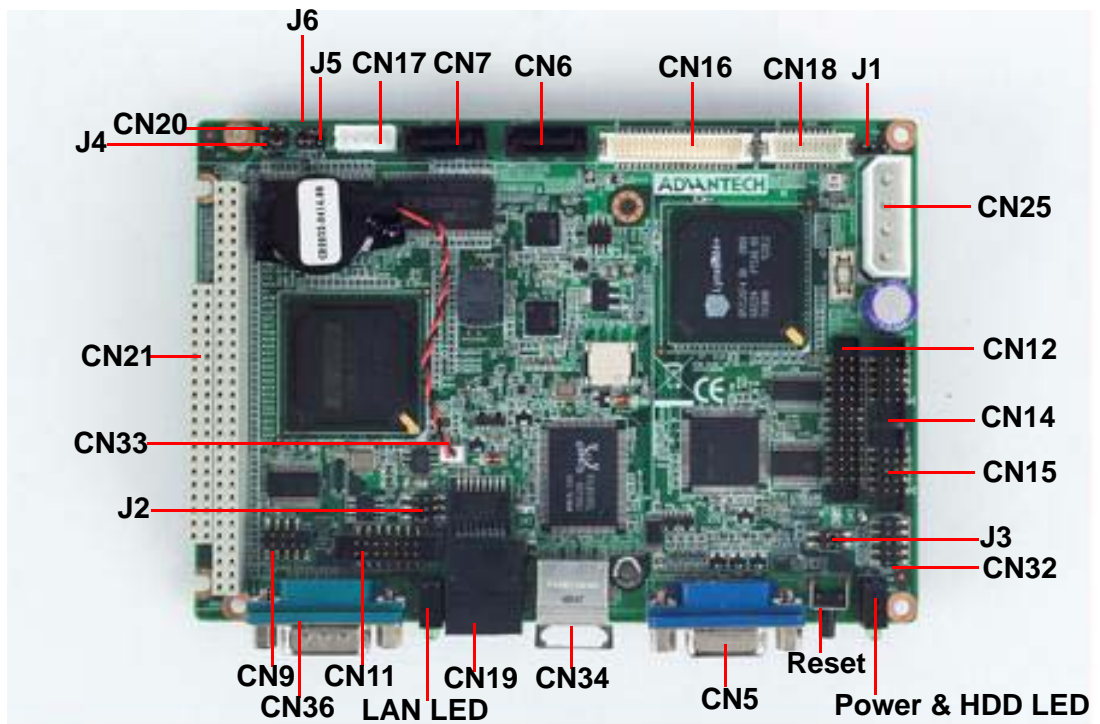


Figure 2.1 Jumper and Connector Layout (Component Side)

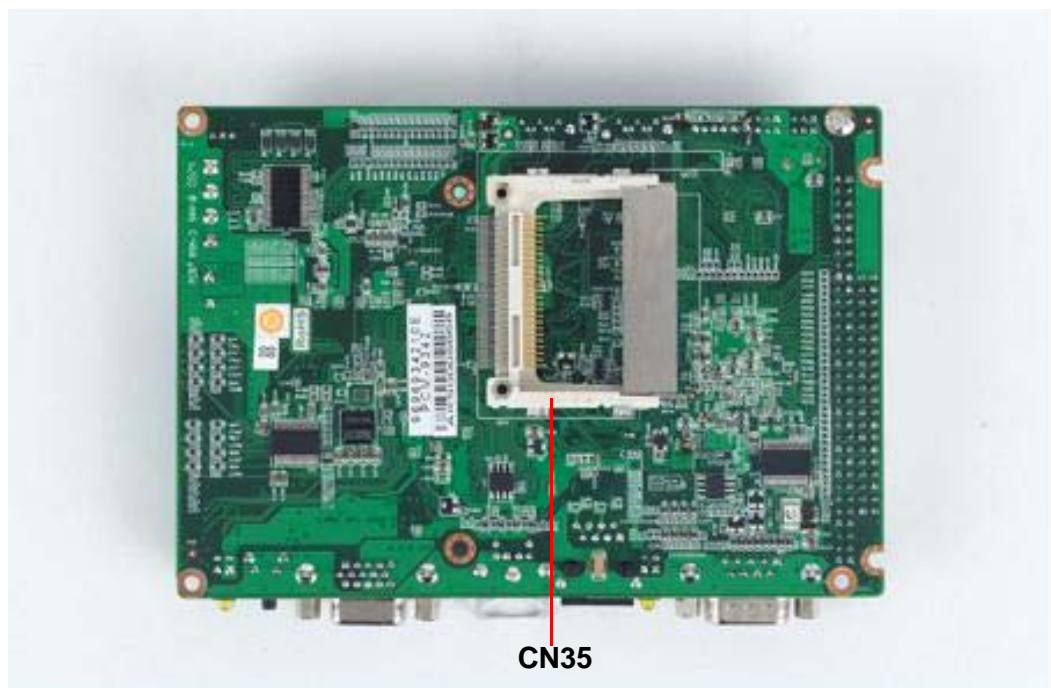


Figure 2.2 Jumper and Connector Layout (Solder Side)

2.3.2 Board Dimension

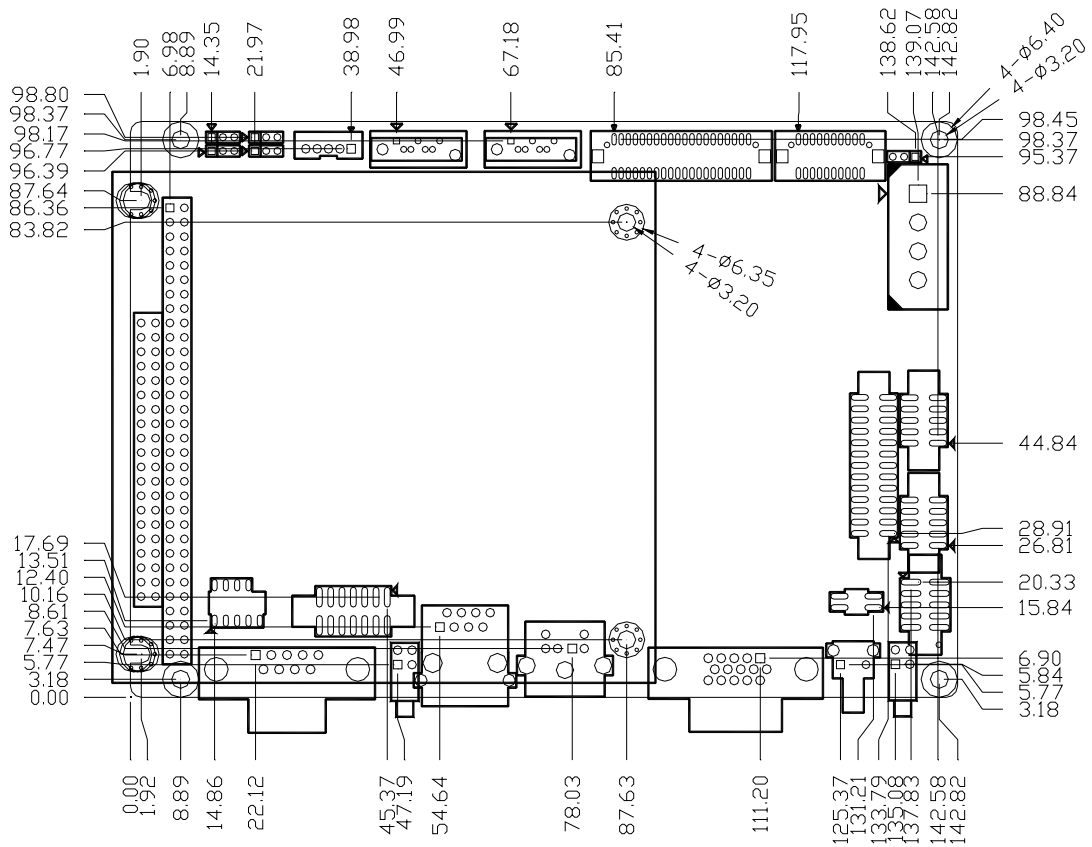


Figure 2.3 Board Dimension Layout (Component Side)

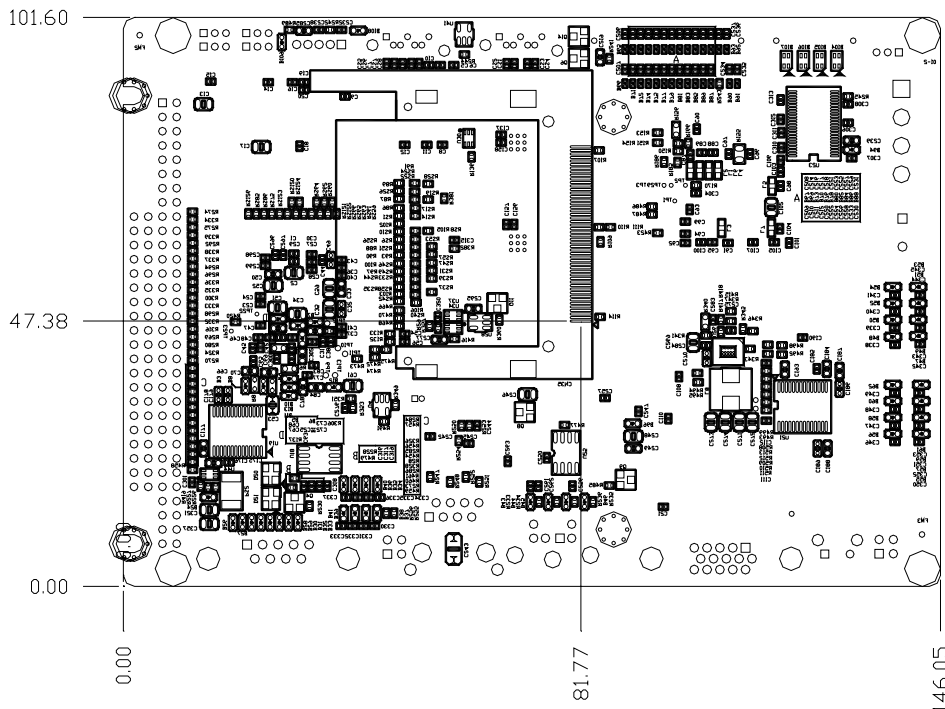


Figure 2.4 Board Dimension Layout (Solder Side)

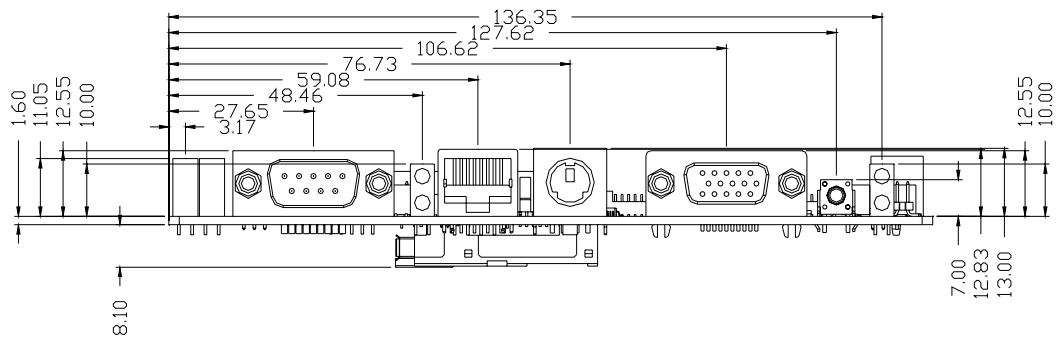


Figure 2.5 Board Dimension Layout (Side)

Chapter 3

BIOS Operation

Sections include:

- BIOS Introduction
- BIOS Setup

3.1 BIOS Introduction

Advantech provide full-featured AwardBIOS 6.0 and delivers the superior performance, compatibility and functionality that manufactures of Industry PC and Embedded boards, it's many options and extensions let you customize your products to a wide range of designs and target markets.

The modular, adaptable AwardBIOS 6.0 supports the broadest range of third-party peripherals and all popular chipsets, plus Intel, AMD, nVidia, VIA, and compatible CPUs from 386 through Pentium and AMD Geode, K7 and K8 (including multiple processor platforms), and VIA Eden C3 and C7 CPU.

You can use Advantech's utilities to select and install features to suit your designs for customers need.

3.2 BIOS Setup

The PCM-9342 Series system has build-in AwardBIOS with a CMOS SETUP utility which allows user to configure required settings or to activate certain system features.

The CMOS SETUP saves the configuration in the CMOS RAM of the motherboard. When the power is turned off, the battery on the board supplies the necessary power to the CMOS RAM.

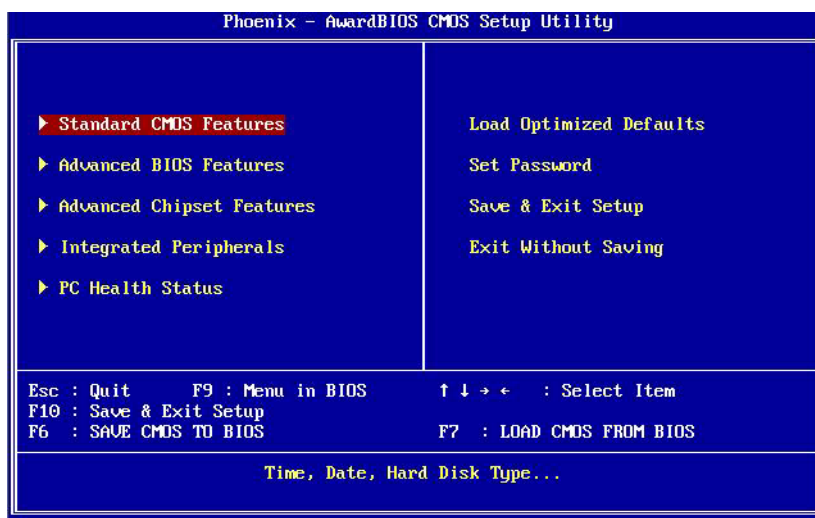
When the power is turned on, press the button during the BIOS POST (Power-On Self Test) will take you to the CMOS SETUP screen.

.

CONTROL KEYS	
< ↑ >> ↓ >> ← >> → >	Move to select item
<Enter>	Select Item
<Esc>	Main Menu - Quit and not save changes into CMOS Sub Menu - Exit current page and return to Main Menu
<Page Up/+>	Increase the numeric value or make changes
<Page Down/->	Decrease the numeric value or make changes
<F1>	General help, for Setup Sub Menu
<F2>	Item Help
<F5>	Load Previous Values
<F6>	Save all CMOS changes to BIOS
<F7>	Load Optimized Default
<F9>	Menu in BIOS
<F10>	Save all CMOS changes

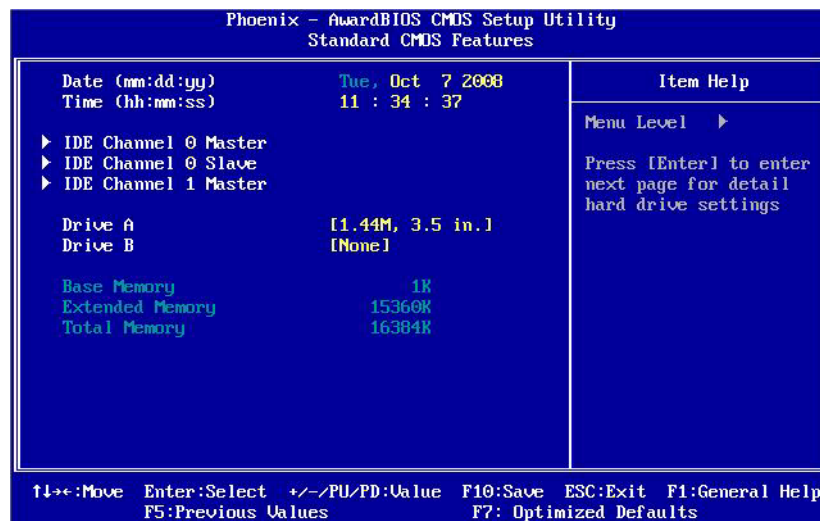
3.2.1 Main Menu

Press to enter AwardBIOS CMOS Setup Utility, the Main Menu will appear on the screen. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.



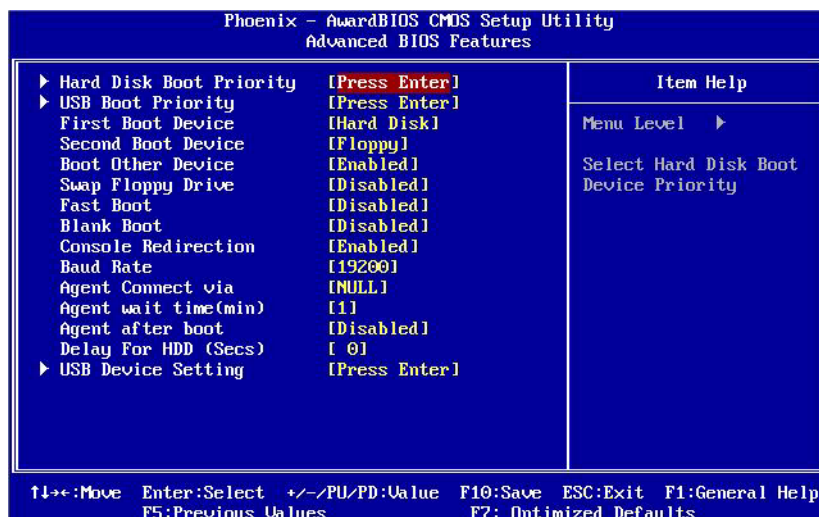
- **Standard CMOS Features**
This setup page includes all the items in standard compatible BIOS.
- **Advanced BIOS Features**
This setup page includes all the items of Award BIOS enhanced features.
- **Advanced Chipset Features**
This setup page includes all the items of Chipset configuration features.
- **Integrated Peripherals**
This setup page includes all onboard peripheral devices.
- **PC Health Status**
This entry displays the current system temperature, and Voltage.
- **Load Optimized Defaults**
This setup page includes Load system optimized value, and the system would be in best performance configuration.
- **Set Password**
Establish, change or disable password.
- **Save & Exit Setup**
Save CMOS value settings to CMOS and exit BIOS setup.
- **Exit Without Saving**
Abandon all CMOS value changes and exit BIOS setup.

3.2.2 Standard CMOS Features



- **Date**
The date format is <week>, <month>, <day>, <year>.
Week From Sun to Sat, determined and display by BIOS only
Month From Jan to Dec.
Day From 1 to 31
Year From 1999 through 2098
- **Time**
The times format in <hour> <minute> <second>, base on the 24-hour time
- **IDE Channel 0 Master/Slave**
IDE HDD Auto-Detection Press "Enter" for automatic device detection.
- **IDE Channel 1 Master**
IDE HDD Auto-Detection Press "Enter" for automatic device detection.
- **Drive A [1.44m, 3.5 in.]**
Select the type of floppy disk drive installed in your system.
- **Drive B [None]**
Select the type of floppy disk drive installed in your system.
- **Base Memory**
The POST of the BIOS will determine the amount of base (or conventional) memory installed in the system.
- **Extended Memory**
The POST of the BIOS will determine the amount of extended memory (above 1MB in CPU's memory address map) installed in the system.
- **Total Memory**
This item displays the total system memory size.

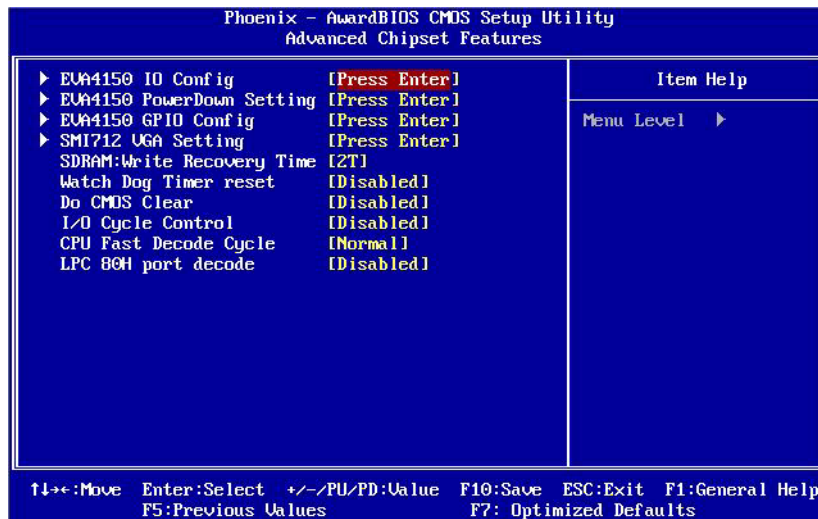
3.2.3 Advanced BIOS Features




- **Hard Disk Boot Priority**
This item allows user to select boot sequence for system device HDD, SCSI, RAID.
- **USB Boot Priority**
This item allows user to select USB Boot Device Priority.
- **First / Second / Other Boot Drive**
 - Floppy Select boot device priority by Floppy.
 - LS120 Select boot device priority by LS120.
 - Hard Disk Select boot device priority by Hard Disk.
 - CDROM Select boot device priority by CDROM.
 - USB Device Select boot device priority by USB Device.
 - ZIP100 Select boot device priority by ZIP100.
 - USB-FDD Select boot device priority by USB-FDD.
 - USB-ZIP Select boot device priority by USB-ZIP.
 - USB-CDROM Select boot device priority by USB-CDROM.
 - LAN Select boot device priority by LAN.
 - Disabled Disable this boot function.
- **Swap Floppy Drive [Disabled]**
This item allows user to swap drive A and driver B sequence.
- **Fast Boot [Disabled]**
This item enable/disable Fast Boot feature.
- **Blank Boot [Disabled]**
This item enable/disable Blank Boot feature.
- **Console Redirection [Enabled]**
This item allows user to enabled / disable console redirection mode.
- **Baud Rate [19200]**
This item allows user to set baud rate modes.
- **Agent Connect via [NULL]**
This item allows user to set agent connect modes.
- **Agent wait time(min) [1]**
This item allows user to set agent wait time(min).

- **Agent after boot [Disabled]**
This item allows user to set agent running after boot mode.
- **Delay For HDD (Secs) [0]**
This item allows user to set delay for HDD(secs).
- **USB Device Setting [Press Enter] (Show Only)**
This item allows users to set USB related features.

3.2.4 Advanced Chipset Features

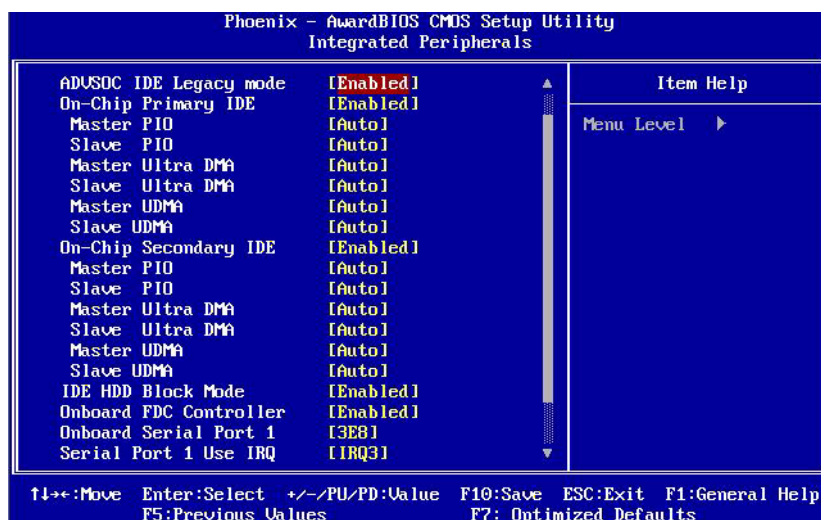


Note!  This "Advanced Chipset Features" option controls the configuration of the board's chipset, this page is developed by Chipset independent, for control chipset register setting and fine tune system performance. It is strongly recommended only technical users make changes to the default settings.

- **EVA4150 IO Config [Press Enter] (Show Only)**
This item allows user to set EVA4150 UART, LPT resources.
- **EVA4150 PowerDown Setting [Press Enter] (Show Only)**
This item allows user to set IDE, USB2.0, COM1 ,COM2 powerdown function.
- **EVA4150 GPIO Config [Press Enter] (Show Only)**
This item allows user to set all of the GPIO resources.
- **SMI712 VGA Setting [Press Enter] (Show Only)**
This item allows users to set VGA related features.
- **SDRAM:Write Recovery Time [2T]**
This item allows users to set the DRAM Write Recovery Time.
- **Watch Dog Timer reset [Disabled]**
This item allows user to set watch dog timer.
- **Do CMOS Clear [Disabled]**
This item allows user to clear CMOS.
- **I/O Cycle Control [Disabled]**
This item allows users to set I/O cycle control mode.
- **CPU Fast Decode Cycle [Normal]**
This item allows users to set CPU of decode cycle mode.

- **LPC 80H port decode [Disabled]**
This item allows users to set LPC of 80H port decode function.

3.2.5 Integrated Peripherals

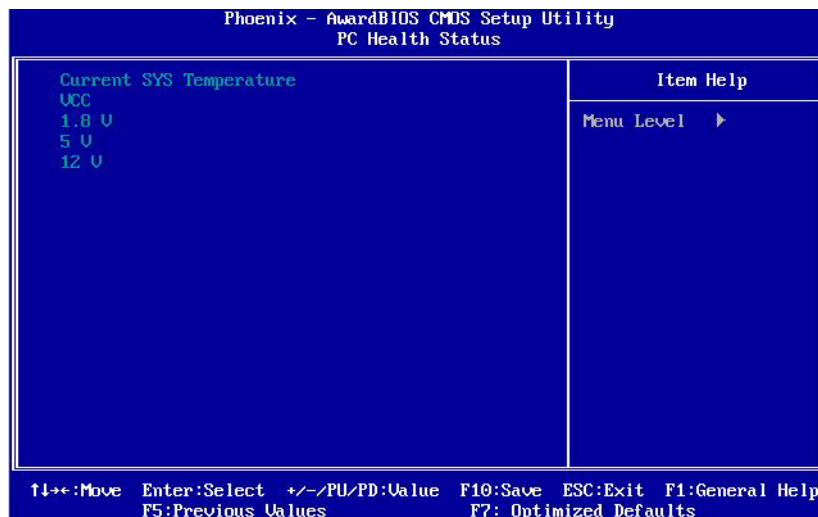


Note! This "Integrated Peripherals" option controls the configuration of the board's chipset, includes IDE, ATA, this page is developed by Chipset independent.

- **ADVSOC IDE Legacy mode [Enabled]**
This item enables ADVSOC IDE as legacy IDE controller or PCI IDE controller.
- **On-Chip Primary IDE / On-Chip Secondary IDE [Enabled]**
This item enables chipset IDE device 1 or 2 of controller.
- **Master PIO [Auto]**
This item allows user to adjust master IDE mode of type for modification purpose. Bios default value suggest to "Auto".
- **Slave PIO [Auto]**
This item allows user to adjust slave IDE mode of type for modification purpose. Bios default value suggest to "Auto".
- **Master Ultra DMA [Auto]**
This item allows user to enable/disable primary master IDE ultra DMA mode. Bios default value suggest to "Enabled".
- **Slave Ultra DMA [Auto]**
This item allows user to enable/disable primary slave IDE ultra DMA mode. Bios default value suggest to "Enabled".
- **Master UDMA [Auto]**
This item allows user to adjust primary master IDE mode of type for modification purpose. Bios default value suggest to "Auto".
- **Slave UDMA [Auto]**
This item allows user to adjust primary slave IDE mode of type for modification purpose. Bios default value suggest to "Auto".

- **IDE HDD Block Mode [Enabled]**
This item allows enabled or disabled that IDE block data transfer mode. It will speed up HDD data transfer of efficiency. Bios default value suggest to "Enabled".
- **Onboard FDC Controller [Enabled]**
This item specifies onboard floppy disk drive controller.
- **Onboard Serial Port 1 [3E8]**
This option is used to assign the I/O address and IRQ for the onboard serial port.
- **Serial Port 1 Use IRQ [IRQ3]**
This option is used to assign the Serial Port 3 Use IRQ.
- **Onboard Serial Port 2 [2E8]**
This option is used to assign the I/O address and IRQ for the onboard serial port.
- **Serial Port 2 Use IRQ [IRQ4]**
This option is used to assign the Serial Port 4 Use IRQ.
- **Onboard Parallel Por [378/IRQ7]**
This item allows you to determine onboard parallel port controller I/O address and IRQ.
- **Parallel Port Mode [Standard]**
Select an operating mode for the onboard parallel port.
- **ECP Mode Use DMA [3]**
When the onboard parallel is set to ECP mode, the parallel port can use DMA3 or DMA1.

3.2.6 PC Health Status

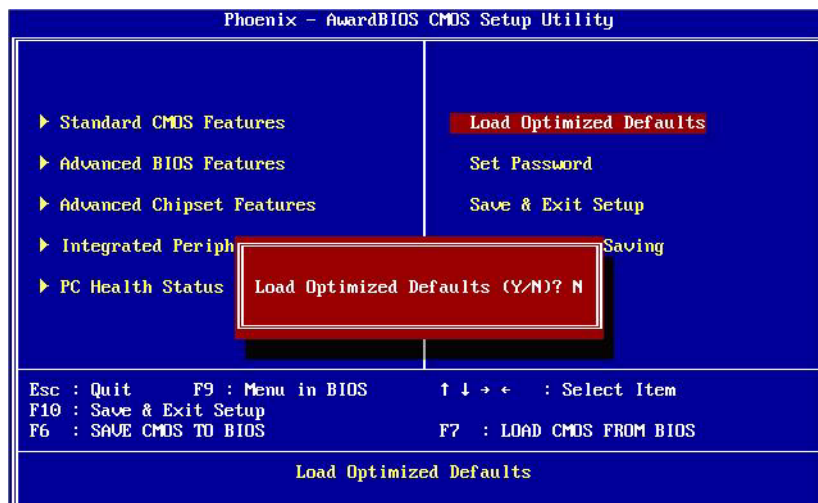


Note! This entry displays the current system temperature, and Voltage.



- Current SYS Temperature
- VCC
- 1.8 V
- 5 V
- 12 V

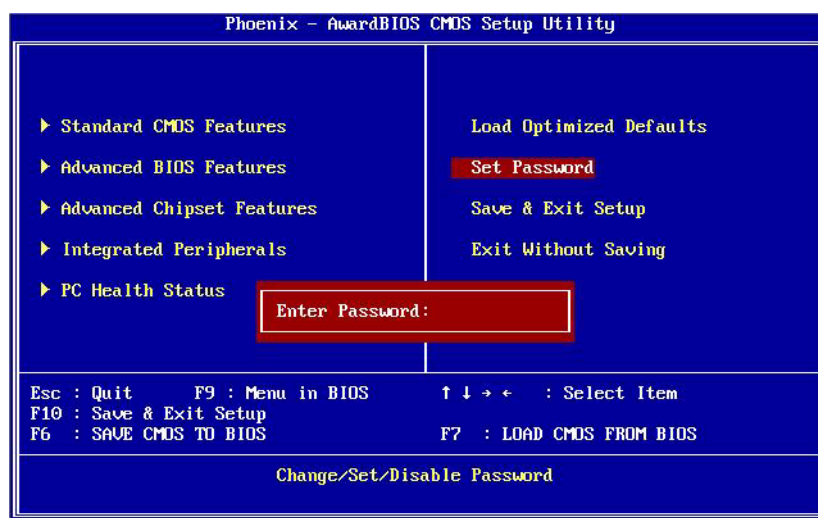
3.2.7 Load Optimized Defaults




Note! *Load Optimized Defaults loads the default system values directly from ROM. If the stored record created by the Setup program should ever become corrupted (and therefore unusable). These defaults will load automatically when you turn the **PCM-9342** Series system on.*



3.2.8 Set Password



Note!  To enable this feature, you should first go to the Advanced BIOS Features menu, choose the Security Option, and select either Setup or System, depending on which aspect you want password protected. Setup requires a password only to enter Setup. System requires the password either to enter Setup or to boot the system. A password may be at most 8 characters long.

To Establish Password

1. Choose the Set Password option from the CMOS Setup Utility main menu and press <Enter>.
2. When you see "Enter Password", enter the desired password and press <Enter>.
3. At the "Confirm Password" prompt, retype the desired password, then press <Enter>.
4. Select Save to CMOS and EXIT, type <Y>, then <Enter>.

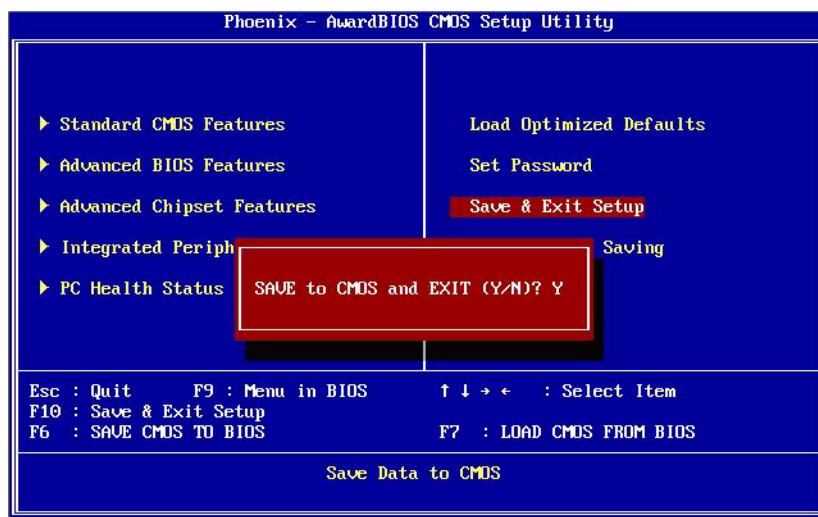
To Change Password

1. Choose the Set Password option from the CMOS Setup Utility main menu and press <Enter>.
2. When you see "Enter Password", enter the existing password and press <Enter>.
3. You will see "Confirm Password". Type it again, and press <Enter>.
4. Select Set Password again, and at the "Enter Password" prompt, enter the new password and press <Enter>.
5. At the "Confirm Password" prompt, retype the new password, and press <Enter>.
6. Select Save to CMOS and EXIT, type <Y>, then <Enter>.

To Disable Password

1. Choose the Set Password option from the CMOS Setup Utility main menu and press <Enter>.
2. When you see "Enter Password", enter the existing password and press <Enter>.
3. You will see "Confirm Password". Type it again, and press <Enter>.
4. Select Set Password again, and at the "Enter Password" prompt, please don't enter anything; just press <Enter>.
5. At the "Confirm Password" prompt, again, don't type in anything; just press <Enter>.
6. Select Save to CMOS and EXIT, type <Y>, then <Enter>.

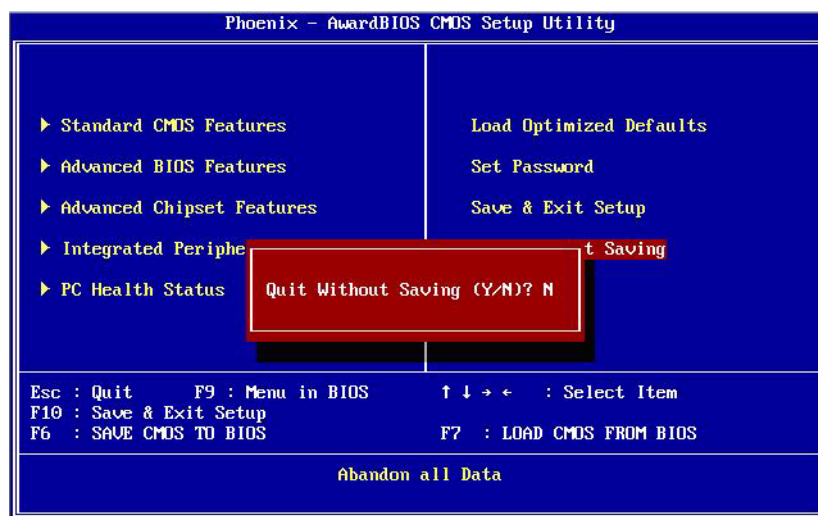
3.2.9 Save & Exit Setup



Note! Type "Y" will quit the BIOS Setup Utility and save user setup value to CMOS.
 Type "N" will return to BIOS Setup Utility.



3.2.10 Quit Without Saving



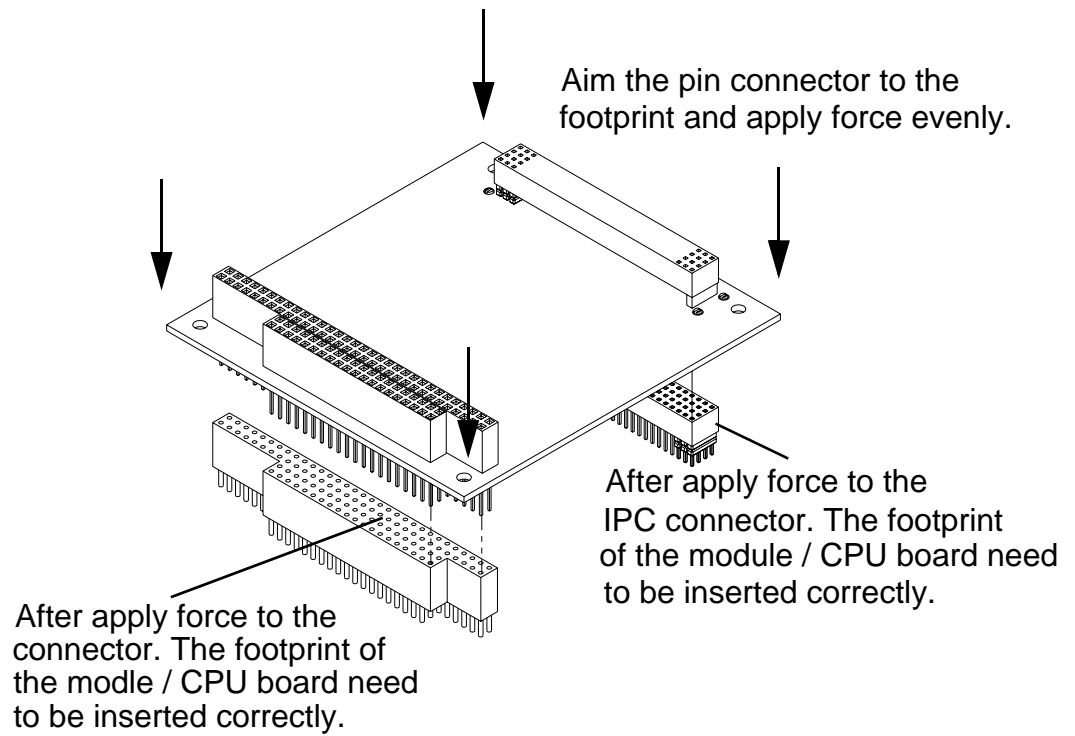
Note! Type "Y" will quit the BIOS Setup Utility without saving to CMOS.
 Type "N" will return to BIOS Setup Utility.



Chapter 4

PC/104

4.1 PC/104



Appendix **A**

Pin Assignments

A.1 VGA (CN5)

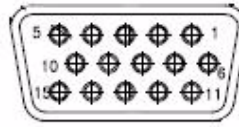
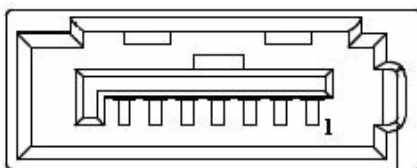


Table A.1: CN5

CN5	VGA
Part Number	1654515304
Footprint	SUYIN_070207FR015S221CA
Description	D-SUB CONN. 15P 90D (F) DIP 5 mm BLUE W/O Pb
Pin	Pin Name
1	RED
2	GREEN
3	BLUE
4	NC
5	GND
6	GND
7	GND
8	GND
9	NC
10	GND
11	NC
12	DDAT
13	HSYNC
14	VSYNC
15	DCLK

A.2 SATA (CN6)

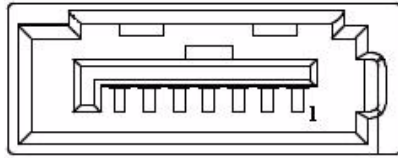


Matching Cable: 1700006291

Table A.2: CN6

CN6	SATA
Part Number	1654000172
Footprint	SATA
Description	Serial ATA 7P 180D (M) DIP WO/Pb LD1807V-S51P
Pin	Pin Name
1	GND
2	TX+
3	TX-
4	GND
5	RX-
6	RX+
7	GND

A.3 SATA (CN7)

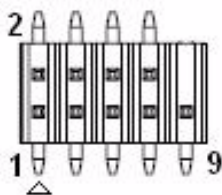


Matching Cable: 1700006291

Table A.3: CN7

CN7	SATA
Part Number	1654000172
Footprint	SATA
Description	Serial ATA 7P 180D (M) DIP WO/Pb LD1807V-S51P
Pin	Pin Name
1	GND
2	TX+
3	TX-
4	GND
5	RX-
6	RX+
7	GND

A.4 Internal USB (CN9)

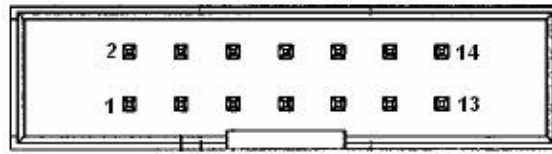


Matching Cable: 1703100121

Table A.4: CN9

CN9	Internal USB
Part Number	1653005260
Footprint	HD_5x2P_79_N10
Description	PIN HEADER 5*2P 180D (M) 2.0 mm SMD IDIOT-PROOF
Pin	Pin Name
1	+5 V
2	+5 V
3	A_D-
4	B_D-
5	A_D+
6	B_D+
7	GND
8	GND
9	GND

A.5 COM2 (CN11)

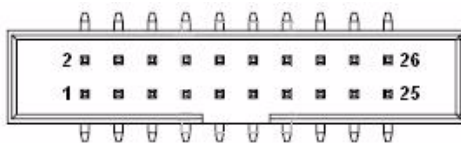


Matching Cable: 1701140201

Table A.5: CN11

CN11	COM2
Part Number	1653207260
Footprint	HD_7x2_79_BOX
Description	BOX HEADER SMD 7*2P 180D (M) 2.0 mm
Pin	Pin Name
1	DCD#
2	DSR#
3	RXD
4	RTS#
5	TXD
6	CTS#
7	DTR#
8	RI#
9	GND
10	GND
11	422/485TX+
12	422/485TX-
13	422RX+
14	422RX-

A.6 LPT (CN12)

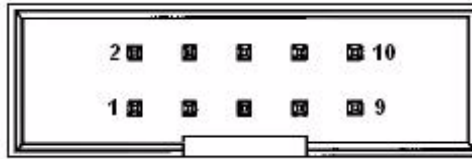


Matching Cable: 1700260250

Table A.6: CN12

CN12	LPT
Part Number	1653213260
Footprint	BH13X2SV
Description	BOX HEADER 13*2P 180D (M) 2.0 mm SMD
Pin	Pin Name
1	STROBE#
2	AUTOFEED#
3	D0
4	ERROR#
5	D1
6	INIT#
7	D2
8	SLCT IN#
9	D3
10	GND
11	D4
12	GND
13	D5
14	GND
15	D6
16	GND
17	D7
18	GND
19	ACK#
20	GND
21	BUSY
22	GND
23	PE
24	GND
25	SLCT
26	NC

A.7 COM3 (CN14)

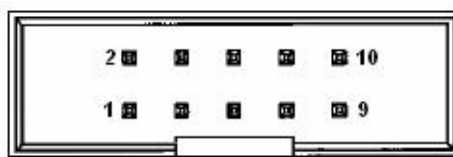


Matching Cable: 1700100250

Table A.7: CN14

CN14	COM3
Part Number	1653205260
Footprint	BH5X2SV
Description	BOX HEADER SMD 5*2 180D (M) 2.0 mm
Pin	Pin Name
1	DCD#
2	DSR#
3	RXD
4	RTS#
5	TXD
6	CTS#
7	DTR#
8	RI#
9	GND
10	GND

A.8 COM4 (CN15)



Matching Cable: 1700100250

Table A.8: CN15

CN15	COM4
Part Number	1653205260
Footprint	BH5X2SV
Description	BOX HEADER SMD 5*2 180D (M) 2.0 mm
Pin	Pin Name
1	DCD#
2	DSR#
3	RXD
4	RTS#
5	TXD
6	CTS#
7	DTR#
8	RI#
9	GND
10	GND

A.9 24 bits TTL Panel (CN16)

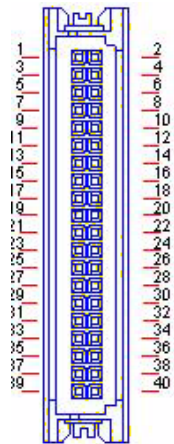


Table A.9: CN16

Pin	Pin Name
1	+5 V
2	+5 V
3	GND
4	GND
5	+3.3 V
6	+3.3 V
7	NC
8	GND
9	PD0
10	PD1
11	PD2
12	PD3
13	PD4
14	PD5
15	PD6
16	PD7
17	PD8
18	PD9
19	PD10
20	PD11
21	PD12
22	PD13
23	PD14
24	PD15
25	PD16
26	PD17

A.10 24 bits TTL Panel (CN16)

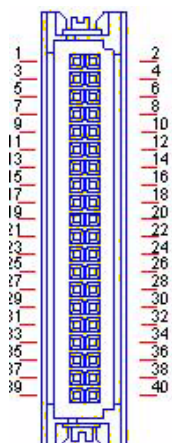


Table A.10: CN16

CN16	24 bits TTL Panel
Part Number	1653920200
Footprint	SPH20X2
Description	*CONN. 40P 90D 1.25 mm SMD WO/Pb DF13-40DP-1.25 V
Pin	Pin Name
27	PD18
28	PD19
29	PD20
30	PD21
31	PD22
32	PD23
33	GND
34	GND
35	SHFCLK
36	FLM (V-SYNC)
37	M/DE
38	LP (H-SYNC)
39	NC
40	ENVEE

A.11 Inverter Power Output (CN17)

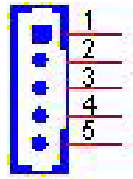


Table A.11: CN17

CN17	Inverter Power Output
Part Number	1655305020
Footprint	WHL5V-2M
Description	WAFER BOX 2.0 mm 5P 180D (M) W/LOCK
Pin	Pin Name
1	+12 V
2	GND
3	ENABKL
4	VBR
5	+5 V

A.12 18 bits LVDS Panel (CN18)

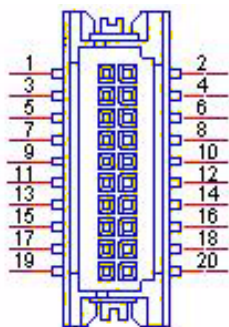


Table A.12: CN18

CN18	18 bits LVDS Panel
Part Number	1653910261
Footprint	SPH10X2
Description	*CONN. SMD 10*2P 180D (M) DF13-20DP-1.25 V HRS
Pin	Pin Name
1	GND
2	GND
3	LVDS0_D0+
4	NC
5	LVDS0_D0-
6	NC
7	LVDS0_D1+
8	NC
9	LVDS0_D1-
10	NC
11	LVDS0_D2+
12	NC
13	LVDS0_D2-
14	NC
15	LVDS0_CLK+
16	NC
17	LVDS0_CLK-
18	NC
19	+5 V or +3.3 V
20	+5 V or +3.3 V

A.13 LAN (CN19)

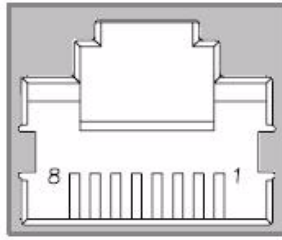


Table A.13: CN19

CN19	LAN
Part Number	1652508200
Footprint	RJ45-677088D06
Description	PHONE JACK RJ45 8P 90D (F) DIP 677-088-D06
Pin	Pin Name
1	TX+
2	TX-
3	RX+
4	NC
5	NC
6	RX-
7	NC
8	NC

A.14 ISA -5 V & -12 V Input (CN20)

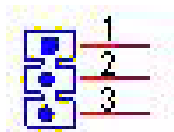


Table A.14: CN20

CN20	ISA -5 V & -12 V Input
Part Number	1653003101
Footprint	JH3X1V-2M
Description	PIN HEADER 3*1P 180D (M) 2.0 mm DIP SQUARE W/O Pb
Pin	Pin Name
1	-12 V
2	-5 V
3	GND

A.15 PC104 (CN21)

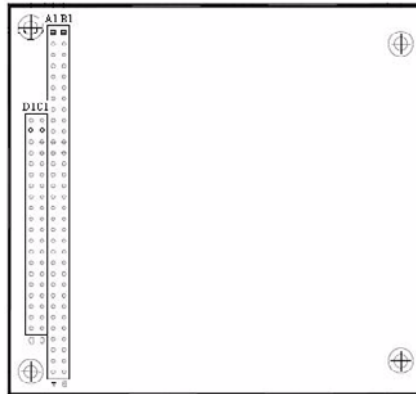


Table A.15: CN21

CN21	PC104
Part Number	165313222A 165312022A
Footprint	PC104A
Description	PC104
Pin	Pin Name
A1	IOCHCK
A2	SD7
A3	SD6
A4	SD5
A5	SD4
A6	SD3
A7	SD2
A8	SD1
A9	SD0
A10	IOCHRDY
A11	AEN
A12	SA19
A13	SA18
A14	SA17
A15	SA16
A16	SA15
A17	SA14
A18	SA13
A19	SA12
A20	SA11
A21	SA10
A22	SA9
A23	SA8
A24	SA7
A25	SA6
A26	SA5

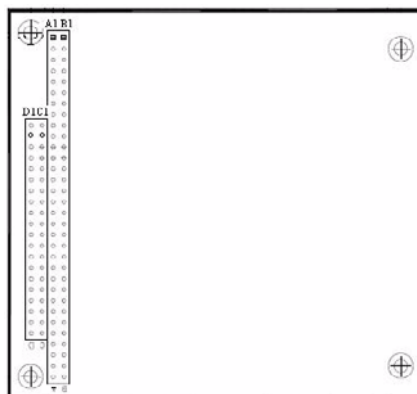


Table A.16: CN21

CN21	PC104
Part Number	165313222A 165312022A
Footprint	PC104A
Description	PC104
Pin	Pin Name
A27	SA4
A28	SA3
A29	SA2
A30	SA1
A31	SA0
A32	GND
B1	GND
B2	RSTDRV
B3	+5 V
B4	IRQ9
B5	-5 V
B6	DRQ2
B7	-12 V
B8	OWS#
B9	+12 V
B10	GND
B11	SMEMW#
B12	SMEMR#
B13	IOW#
B14	IOR#
B15	DACK3#
B16	DRQ3
B17	DACK1#
B18	DRQ1
B19	REFRESH#
B20	SYSCLK

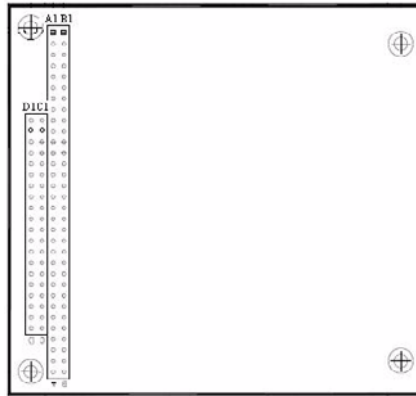


Table A.17: CN21

CN21	PC104
Part Number	165313222A 165312022A
Footprint	PC104A
Description	PC104
Pin	Pin Name
B21	IRQ7
B22	IRQ6
B23	IRQ5
B24	IRQ4
B25	IRQ3
B26	DACK2#
B27	TC
B28	ALE#
B29	+5 V
B30	OSC
B31	GND
B32	GND
C1	GND
C2	BHE#
C3	LA23
C4	LA22
C5	LA21
C6	LA20
C7	LA19
C8	LA18
C9	LA17
C10	MEMR#
C11	MEMW#
C12	SD8
C13	SD9
C14	SD10

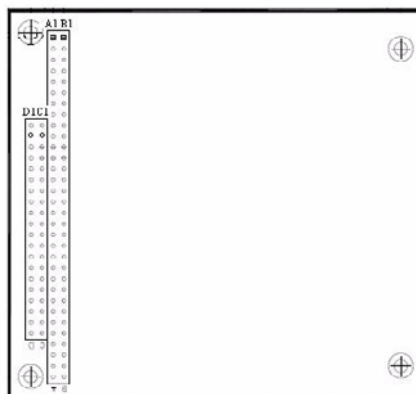


Table A.18: CN21

CN21	PC104
Part Number	165313222A 165312022A
Footprint	PC104A
Description	PC104
Pin	Pin Name
C15	SD11
C16	SD12
C17	SD13
C18	SD14
C19	SD15
C20	NC
D1	GND
D2	MEMCS16#
D3	IOCS16#
D4	IRQ10
D5	IRQ11
D6	IRQ12
D7	IRQ15
D8	IRQ14
D9	DACK0#
D10	DRQ0
D11	DACK5#
D12	DRQ5
D13	DACK6#
D14	DRQ6
D15	DACK7#
D16	DRQ7
D17	+5 V
D18	MASTER#
D19	GND
D20	GND

A.16 AT Power Input (CN25)

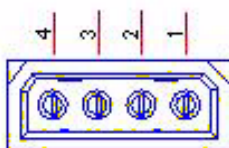


Table A.19: CN25

CN25	AT Power Input
Part Number	1655204030
Footprint	PWR-4PV-508
Description	HOUSING 5.08 mm 4P 180D MALE W/O LOCK
Pin	Pin Name
1	+12 V
2	GND
3	GND
4	+5 V

A.17 GPIO (CN32)

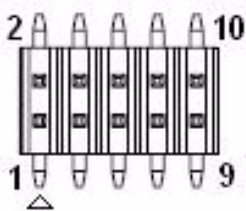


Table A.20: CN32

CN32	GPIO
Part Number	1653005261
Footprint	HD_5x2P_79_BOX
Description	PIN HEADER SMD 5*2P 180D (M) 2.0 mm
Pin	Pin Name
1	+5 V
2	GPIO4
3	GPIO0
4	GPIO5
5	GPIO1
6	GPIO6
7	GPIO2
8	GPIO7
9	GPIO3
10	GND

A.18 Battery (CN33)



Table A.21: CN33

CN33	Battery
Part Number	1655902032
Footprint	WHL2V-125
Description	WAFER 2P 180D (M) 1.25 mm DIP 53047-0210
Pin	Pin Name
1	+3 V
2	GND

A.19 PS2 (CN34)

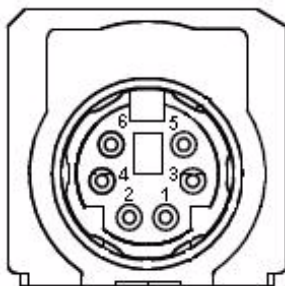


Table A.22: CN34

CN34	PS2
Part Number	1654606317
Footprint	MINIDIN6
Description	MINI DIN 6P 90D (F) DIP W/Shielded Purple w/o cd
Pin	Pin Name
1	KBDAT
2	MSDAT
3	GND
4	+5 V
5	KBCLK
6	MSCLK

A.20 CF (CN35)

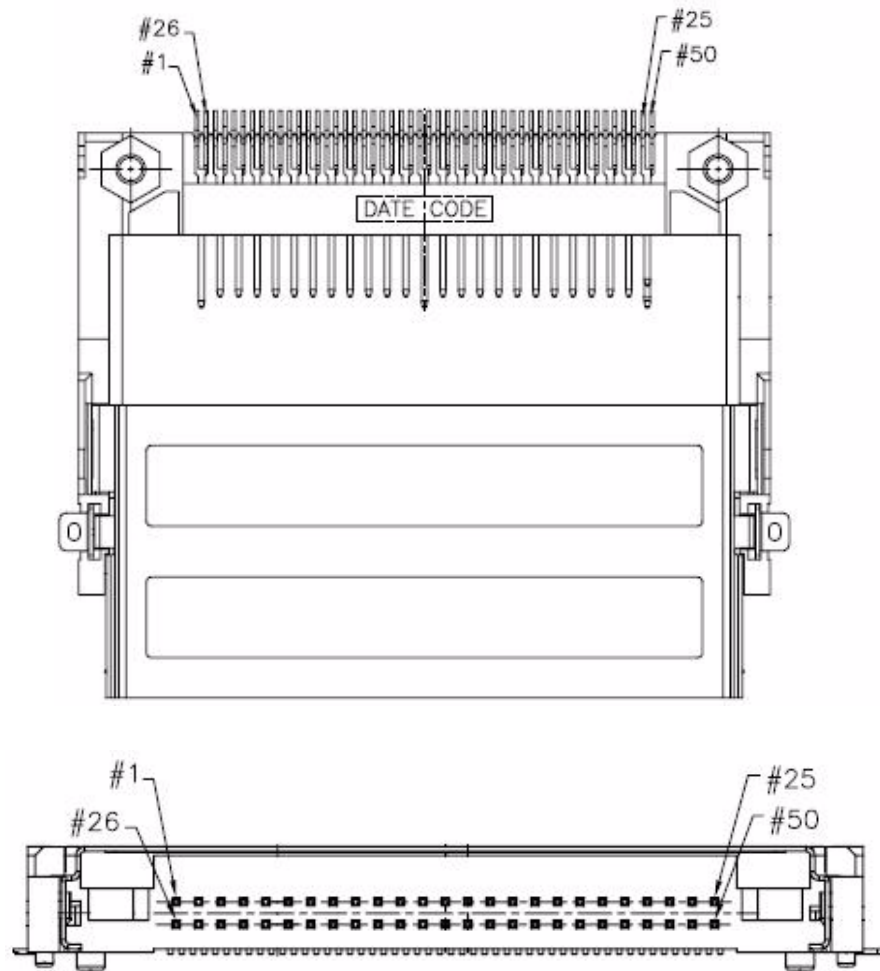


Table A.23: CN35

CN35	CF
Part Number	1653002086
Footprint	SPEED_N016-0140-104
Description	
Pin	Pin Name
1	GND
2	D03
3	D04
4	D05
5	D06
6	D07
7	CS0#
8	GND
9	GND
10	GND
11	GND
12	GND
13	+5V
14	GND
15	GND
16	GND
17	GND
18	A02
19	A01
20	A00
21	D00
22	D01
23	D02
24	NC
25	CD2#
26	CD1#

A.21 COM1 (CN36)

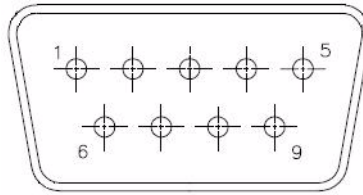


Table A.24: CN36

CN36	COM1
Part Number	1654409108
Footprint	SUYIN_070205MR009S202BA
Description	D-SUB CONN 9P 5 mm GRN 90D (F) 070205MR009S202BA
Pin	Pin Name
1	DCD#
2	RXD
3	TXD
4	DTR#
5	GND
6	DSR#
7	RTS#
8	CTS#
9	RI#

Appendix **B**

Watchdog Timer

B.1 Watchdog Timer Sample Code

```
;The SCH3114 Runtime base I/O address is 800h
;Setting WatchDog time value location at offset 66h
;If set value "0", it is mean disable WatchDog function.
Superio_GPIO_Port = 800h
mov dx,Superio_GPIO_Port + 66h
mov al,00h
out dx,al
.model small
.486p
.stack 256
.data
SCH3114_IO EQU 800h
.code
org 100h
.STARTUp
;=====
;47H
;enable WDT function bit [3:2]=11
;=====
mov dx,SCH3114_IO + 47h
mov al,0ch
out dx,al
;=====
;65H
;bit [1:0]=Reserved
;bit [6:2]Reserve=00000
;bit [7] WDT time-out Value Units Select
;Minutes=0 (default) Seconds=1
;=====
mov dx,SCH3114_IO + 65h ;
mov al,080h
out dx,al
;=====
;66H
;WDT timer time-out value
;bit[7:0]=0~255
;=====
mov dx,SCH3114_IO + 66h
mov al,01h
out dx,al
;=====
;bit[0] status bit R/W
;WD timeout occurred =1
;WD timer counting = 0
```

```
;=====
mov dx,SCH3114_IO + 68h
mov al,01h
out dx,al
.exit
END
```

Trusted ePlatform Services

ADVANTECH

www.advantech.com

Please verify specifications before quoting. This guide is intended for reference purposes only.

All product specifications are subject to change without notice.

No part of this publication may be reproduced in any form or by any means, electronic, photocopying, recording or otherwise, without prior written permission of the publisher.

All brand and product names are trademarks or registered trademarks of their respective companies.

© Advantech Co., Ltd. 2008