PCM-5330

Embedded STPC ATLAS

133 MHz processor

with SVGA/LCD Interface PC/104 CPU Module

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Packing List

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

- 1 PCM-5330 PC/104 CPU Module
- 1 Quick Installation Guide
- 1 CD-ROM for manual (in PDF format), drivers and utility
- 1 2mm to 2.54mm IDE flat cable, 44-pin to 40-pin
- 1 PS/2 keyboard & mouse cable
- 1 Serial port cables
- 1 Parallel cable
- 1 FDD flat cable
- 1 VGA flat cable
- 1 USB cable
- 1 Ethernet RJ-45 connector Conversion (for specific version only)

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

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Chapter

General Information

1.1 Features

- STPC® ATLAS 133MHz processor
- Fanless Design
- Onboard 64MB SDRAM
- USB 1.1 compatible, support 2 USB ports
- Both CRT and flat panel simultaneously display
- 10/100Mbps Fast Ethernet
- 18-bit TFT LCD

1.2 Specifications

System

•	CPU	Embedded STPC ATLAS 133MHz processor
•	Chipset	STPC® ATLAS 133MHz processor
•	IO Chipset	STPC® ATLAS 133MHz processor, Winbond W83977
•	BIOS	AWARD 256KB Flash ROM
•	System Memory	Onboard 64MB SDRAM (32/128MB option, SDRAM clock up to 100MHz)
•	Ethernet (optional)	ADMtek AN983B, 10/100Mbps Ethernet
•	Enhanced IDE Interface	Supports up to two EIDE devices. BIOS auto-detect, PIO Mode 3 or Mode 4 transfer rate up to 22MB/sec

	PC/104 Module		P C M - 5 3 3 0
•	FDD Interface	Supports 3	.5" FDD
•	USB Ports	USB 1.1 co devices	ompatible, supports up to two USB
•	Serial Ports	3 serial RS RS-232/42	-232 ports, one serial 2/485 port
•	Parallel port	One paralle mode	el port, supports SPP/EPP/ECP
•	Keyboard/mouse connector	Mini-Din c keyboard a	onnector supports standard PS/2 nd mouse
•	Watchdog Timer	Can genera selectable t 15sec, 30se	tte a system reset, software ime-out interval. (15sec ~ 127min ec/step)
•	SSD	Type I Cor	npactFlash™ socket
•	Digital I/O	Provides 1 purpose us	6 digital I/O channels for general e
•	IR Interface	Supports o	ne IrDA Tx/Rx header

Display

•	Display Memory	UMA architecture, share system memory up to 4MB
•	Display Type	Supports CRT and TFT LCDs. Able to display both CRT and Flat Panel simultaneously
•	Flat Panel Display Mode	Supports 9/12/18-bit TFT flat panels with resolution up to 800 x 600
•	CRT Display Mode	Interlaced or non-interlaced CRT monitor resolution up to 1024 x 768 x 75Hz@24bpp

- Please note the default BIOS supports "CRT and LCD (640x480)" while users also have two other options of display support mode:
 - CRT and LCD (800x600)
 - CRT only

Please refer to AAEON web (<u>www.aaeon.com.tw</u>) to download the latest support BIOS.

Expansion Interface

•	PC/104	One 16-bit 104 pin connector onboard for
	Connector	PC/104 module expansion

Mechanical and Environment

•	Board Dimension	96mm x 90mm (3.77" x 3.54")
	(L x W)	
•	Weight	0.6lb (0.25kg)
•	Operating Temperature	0 ~60 (32 ~140)
•	Operating Humidity	0% to 90% relative humidity, non-condensing
•	Power Supply Voltage	$+5V \pm 5\%$



Quick Installation Guide

Notice: The Quick Installation Guide is consisted in Chapter 2 of user manual. For other chapters and further installation instructions please refer to the user manual CD-ROM that come with the product.



Chapter 2 Quick Installation Guide Part No.2007533013 June 2003 Printed in Taiwan

2.1 Safety Precautions



Always completely disconnect the power cord from your board whenever you are working on it. Do not make connections while the power is on, because sensitive electronic components can be damaged by a sudden rush of power.

Caution!



Always ground yourself to remove any static charge before touching the board. Modern electronic devices are very sensitive to static electric charges. Use a grounding wrist strap at all times. Place all electronic components on a static-dissipative surface or in a static-shielded bag when they are not in the chassis

2.2 Location of Connectors and Jumpers

2.2.1 Locating connectors and jumpers (component side)



2.2.2 Locating connectors and jumpers (soldering side)



PC/104 Module

2.3 Mechanical Drawing

2.3.1 Mechanical drawing (component side)



2.3.2 Mechanical drawing (soldering side)



2.4 List of Jumpers

The number of jumpers ideally allow users to manually customize the system configurations to meet their application requirements.

The following chart consists the list of each jumper function:

Jumpers

Label	Function
JP1	COM2 RS-232/422/485 Selection
JP2	COM2 RS-232/422/485 Selection
JP3	COM1/2 Enable/Disable Selection
JP4	Clear CMOS
JP5	LCD Voltage Selection
JP6	TTL_LCD Clock Selection

2.5 List of Connectors

The board has a number of connectors that allow you to configure your system to suit your application. Connectors on board link to external devices such as hard disk drives, keyboard, or floppy drives.

The table below shows the function of each of the board's connectors:

Label	Function
CN1	VGA Display Connector
CN2	IDE Connector
CN3	Floppy Connector
CN4	LPT Port Connector
CN5	TTL_LCD Connector
CN6	USB 1/USB 2 Connector
CN7	GPIO Connector
CN8	PS2 Keyboard/Mouse Connector
CN9	Serial Port Connector
CN10	10/100Base-T Ethernet Connector
CN11	Power Connector
CN12	Front Panel Connector
CFD1	CompactFlash™ Slot
104_1/2	PC/104

Connectors

2.6 Setting Jumpers

You configure your card to match the needs of your application by setting jumpers. A jumper is the simplest kind of electric switch. 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.



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.

2.7 COM2 RS-232/422/485 Selection (JP1 & JP2)

The COM2 port can be selected as RS-232, RS-422 or RS-485 by setting JP1, JP2 and JP3. The following chart shows the jumper setting.

JP2	JP1	Function	
1-2, 4-5, 7-8, 10-11	1-2	RS-232 *	
2-3, 5-6, 8-9, 11-12	3-4	RS-422	
2-3, 5-6, 8-9, 11-12	5-6	RS-485	

* Default

2.8 COM1/2 Enable/Disable Selection (JP3)

JP3	Function	JP3	Function
1-2(COM1) 3-4(COM2) Close	Disable	1-2(COM1) 3-4(COM2) Open *	Enable

*Default

2.9 Clear CMOS (JP4)

JP4	Function	JP4	Function
1-2*	Protected	2-3	Clear
* Default			

2.10 LCD Voltage Selection (JP5)

JP5	Function	JP5	Function
1-2*	+3.3V	2-3	+5V
* Default	1		

2.11 TTL-LCD Clock Selection (JP6)

JP6	Function	JP6	Function
1-2	Reverse CLK	2-3*	CLK
* Defaul	t		

2.12 VGA Display Connector (CN1)

-		
2	+5V	
4	GND	
6	N.C	
8	DDCDAT	
10	HSYNC	
12	VSYNC	
14	DDCCLK	
	2 4 6 8 10 12 14	2 +5V 4 GND 6 N.C 8 DDCDAT 10 HSYNC 12 VSYNC 14 DDCCLK

PC/104	Module
--------	--------

15 GND 16 GND

2.13 IDE Connector (CN2)

Signal	Pin	Signal
IDE RESET	2	GND
DATA7	4	DATA8
DATA6	6	DATA9
DATA5	8	DATA10
DATA4	10	DATA11
DATA3	12	DATA12
DATA2	14	DATA13
DATA1	16	DATA14
DATA0	18	DATA15
GND	20	N.C
REQ	22	GND
IO WRITE	24	GND
IO READ	26	GND
IO READY	28	GND
DACK	30	GND
IRQ14	32	N.C
ADDR1	34	UDMA DETECT
ADDR0	36	ADDR2
CS#1	38	CS#3
	Signal IDE RESET DATA7 DATA6 DATA5 DATA5 DATA5 DATA3 DATA2 DATA2 DATA2 DATA2 DATA1 DATA0 GND GND GND REQ IO WRITE IO WRITE IO READ IO READ IO READ IO READY DACK IRQ14 ADDR1 ADDR0 CS#1	Signal Pin IDE RESET 2 DATA7 4 DATA6 6 DATA5 8 DATA4 10 DATA3 12 DATA2 14 DATA1 16 DATA0 18 GND 20 REQ 22 IO WRITE 24 IO READY 28 DACK 30 IRQ14 32 ADDR1 34 ADDR0 36

Chapter 2 Quick Installation Guide

	PC/104 Module		P C M - 5 3 3 0
39	LED	40	GND
41	+5V	42	+5V
43	GND	44	N.C

2.14 Floppy Connector (CN3)

Pin	Signal	Pin	Signal
1	GND	2	#REDWC
3	GND	4	N.C
5	GND	6	#DS1
7	GND	8	#INDEX
9	GND	10	#MOTOR A
11	GND	12	#DRIVE SELECT B
13	GND	14	#DRIVE SELECT A
15	GND	16	#MOTOR B
17	GND	18	#DIR
19	GND	20	#STEP
21	GND	22	#WRITE DATA
23	GND	24	#WRITE GATE
25	GND	26	#TRACK0
27	GND	28	#WRITE PROTECT
29	GND	30	#READ DATA
31	GND	32	#SIDE1
33	GND	34	#DISK CHANGE

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2.15 LPT Port Connector (CN4)

Pin	Signal	Pin	Signal
1	#STROBE	2	#AFD
3	DATA0	4	#ERROR
5	DATA1	6	#INIT
7	DATA2	8	#SLIN
9	DATA3	10	GND
11	DATA4	12	GND
13	DATA5	14	GND
15	DATA6	16	GND
17	DATA7	18	GND
19	#ACK	20	GND
21	BUSY	22	GND
23	PE	24	GND
25	SELECT	26	N.C

2.16 TTL_LCD Connector (CN5)

Signal	Pin	Signal
+5V	2	+5V
GND	4	GND
+3.3V	6	+3.3V
ENBKL	8	GND
BLUE0	10	BLUE1
BLUE2	12	BLUE3
BLUE4	14	BLUE5
BLUE6	16	BLUE7
GREEN0	18	GREEN1
GREEN2	20	GREEN3
GREEN4	22	GREEN5
GREEN6	24	GREEN7
RED0	26	RED1
RED2	28	RED3
RED4	30	RED5
RED6	32	RED7
GND	34	GND
DOT_CLOCK	36	VSYNC
DE	38	HSYNC
N.C	40	ENAVEE
	Signal +5V GND +3.3V ENBKL BLUE0 BLUE2 BLUE4 BLUE6 GREEN0 GREEN2 GREEN4 GRED0 RED0 RED2 RED4 D0T_CLOCK DE N.C	SignalPin+5V2GND4+3.3V6ENBKL8BLUE010BLUE212BLUE414BLUE616GREEN018GREEN220GREEN422GREEN624RED026RED228RED430RED632GND34DOT_CLOCK36N.C40

2.17 USB1 / USB2 Connector (CN6)

Pin	Signal	Pin	Signal
1	+5V	2	GND
3	USBD1-	4	GND
5	USBD1+	6	USBD2+
7	GND	8	USBD2-
9	GND	10	+5V

2.18 GPIO Connector (CN7)

Master Address is 326 with control pin 1, 3, 5, ~, 15 Slave Address is 32E with control pin 2, 4, 6, ~, 16

Pin	Signal	Pin	Signal
1	GPIO0	2	GPIO8
3	GPIO1	4	GPIO9
5	GPIO2	6	GPIO10
7	GPIO3	8	GPIO11
9	GPIO4	10	GPIO12
11	GPIO5	12	GPIO13
13	GPIO6	14	GPIO14
15	GPIO7	16	GPIO15
17	GND	18	+5V

2.19 PS2 Keyboard/Mouse Connector (CN8)

Pin	Signal
1	KB_DATA
2	KB_CLK
3	GND
4	+5V
5	MS_DATA
6	MS_CLK

2.20 Serial Port Connector (CN9)

PCM-5330 offers four serial ports, 3 serial RS-232 ports, one serial RS-232/422/485 port, which allows you to connect them to serial devices (mouse, printer, etc.).

Pin	Signal	Pin	Signal
1	DCD1	2	DSR1
3	RXD1	4	RTS1
5	TXD1	6	CTS1
7	DTR1	8	RI1
9	GND	10	N.C
11	DCD2(422TXD-/485DATA -)	12	DSR2
13	RXD2(422RXD+)	14	RTS2

_	PC/104 Module		PCM-5330
15	TXD2(422TXD+/485DATA+)	16	CTS2
17	DTR2(422RXD-)	18	RI2
19	GND	20	N.C
21	DCD3	22	DSR3
23	RXD3	24	RTS3
25	TXD3	26	CTS3
27	DTR3	28	RI3
29	GND	30	N.C
31	DCD4	32	DSR4
33	RXD4	34	RTS4
35	TXD4	36	CTS4
37	DTR4	38	RI4
39	GND	40	N.C

2.21 10/100Base-T Ethernet Connector (CN10)

Pin	Signal	Pin	Signal
1	RX-	2	Rx+
3	Temp_GND	4	Temp_GND
5	GND	6	GND
7	Temp_GND	8	Temp_GND
9	TX+	10	TX-

2.22 Power Connector (CN11)

Pin	Signal
1	+5V
2	GND
3	GND
4	+12V

2.23 Front Panel Connector (CN12)

Pin	Signal	
1	Power LED(+)	
2	Power LED(-)	
3	External Buzzer(+)	
4	External Buzzer(-)	
5	IDE LED(+)	
6	IDE LED(-)	
7	Reset Switch(+)	
8	Reset Switch(-)	
9	+5V	
10	Speed LED	
11	Active LED	
12	Link LED	

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13	+5V
14	N.C
15	IRRX
16	GND
17	IRTX

2.24 CompactFlash™ Connector (CFD1)

The PCM-5330 is equipped with a CompactFlash type I socket on the solder side, which supports the IDE interface CompactFlash card. The socket itself is specially designed to prevent any incorrect installation of the CompactFlash card. When installing or removing the CompactFlash card, please make sure that the system power is off.

The CompactFlash card is acted as a disk drive in your PC system. To fit the AAEON CompactFlash card into the PCM-5330, simply plug it into the designated connector. It will only fit when the red triangle on the CompactFlash card is aligned with the triangle on the connector. The card will not fit any other way (do NOT use excessive force).

Pin	Signal	Pin	Signal
1	GND	26	GND
2	DATA 3	27	DATA 11
3	DATA 4	28	DATA 12
4	DATA 5	29	DATA 13
5	DATA 6	30	DATA 14
6	DATA 7	31	DATA 15
7	CS#1	32	CS#3

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8	GND	33	GND
9	GND	34	IO READ
10	GND	35	IO WRITE
11	GND	36	+5V
12	GND	37	IRQ15
13	+5V	38	+5V
14	GND	39	CSEL
15	GND	40	N.C.
16	GND	41	IDE RESET
17	GND	42	IO READY
18	ADDR 2	43	N.C.
19	ADDR 1	44	+5V
20	ADDR 0	45	DASP
21	DATA 0	46	DIAG
22	DATA 1	47	DATA 8
23	DATA 2	48	DATA 9
24	N.C.	49	DATA 10
25	GND	50	GND

2.25 PC/104 Connector (104_1/2)



Award BIOS Setup

3.1 System test and initialization

These routines test and initialize board hardware. If the routines encounter an error during the tests, you will either hear a few short beeps or see an error message on the screen. There are two kinds of errors: fatal and non-fatal. The system can usually continue the boot up sequence with non-fatal errors. Non-fatal error messages usually appear on the screen along with the following instructions:

Press <F1> to RESUME

Write down the message and press the F1 key to continue the boot up sequence.

System configuration verification

These routines check the current system configuration against the values stored in the CMOS memory. If they do not match, the program outputs an error message. You will then need to run the BIOS setup program to set the configuration information in memory.

There are three situations in which you will need to change the CMOS settings:

- 1. You are starting your system for the first time
- 2. You have changed the hardware attached to your system
- 3. The CMOS memory has lost power and the configuration information has been erased.

The PCM-5330 CMOS memory has an integral lithium battery backup for data retention. However, you will need to replace the complete unit when it finally runs down.

3.2 Award BIOS setup

Awards BIOS ROM has a built-in Setup program that allows users to modify the basic system configuration. This type of information is stored in battery-backed CMOS RAM so that it retains the Setup information when the power is turned off.

Entering setup

Power on the computer and press immediately. This will allow you to enter Setup.

Phoenix - AwardBI0	s CMOS Setup Utility	
 Standard CAOS Features Advanced BIOS Peatures Advanced Chipset Peatures Integrated Peripherals Power Management Setup PnP/PCI Configurations 	Lond Fail-Safe Defaults Lond optimized Defaults Set Password Save & Exit Setup Exit Without saving	
Esc : Quit F9 : Nenu in BIDS F10 : Save & Exit Setup	+ + : Select Item	
Time, Date, Hard Disk Type,		

Standard CMOS Features

Use this menu for basic system configuration. (Date, time, IDE, etc.)

Advanced BIOS Features

Use this menu to set the advanced features available on your system.

Advanced Chipset Features

Use this menu to change the values in the chipset registers and optimize your system performance.

Integrated Peripherals

Use this menu to specify your settings for integrated peripherals. (Primary slave, secondary slave etc.)

Power Management Setup

Use this menu to specify your settings for power management.

PnP/PCI Configurations

This entry appears if your system supports PnP/PCI.

Load Fail-Safe Defaults

Use this menu to load the BIOS default values for the minimal/stable performance for your system to operate.

Load Optimized Defaults

Use this menu to load the BIOS default values that are factory settings for optimal performance system operations. While AWARD has designated the custom BIOS to maximize performance, the factory has the right to change these defaults to meet their needs.

Set Password

Use this menu to set User Passwords.

Save & Exit Setup

Save CMOS value changes to CMOS and exit setup.

Exit Without Saving

Abandon all CMOS value changes and exit setup.

3.3 Standard CMOS Features

When you choose the Standard CMOS Features option from the INITIAL SETUP SCREEN menu, the screen shown below is displayed. This standard Setup Menu allows users to configure system components such as date, time, hard disk drive, floppy drive and display. Once a field is highlighted, on-line help information is displayed in the right box of the Menu screen.

Date (mm:dd:yy)	May 19 2003	Iten Help
IDE Primary Master IDE Primary Slave IDE Secondary Master IDE Secondary Slave		Henu Level F Change the day, mont year and century
Drive A Drive B	[1.44M, 3.5 fn.] [None]	
video Halt on	[EGA/VGA] [All , But Keyboard]	
Ease Hermony Extended Nemony Tetral Nemony	640K 64512K 65530K	

3.4 Advanced BIOS Features

By choosing the Advanced BIOS Features option from the INITIAL SETUP SCREEN menu, the screen below is displayed. This sample screen contains the manufacturer's default values for the PCM-5330.

Phoenix - Awardbios CNOS Setup Utility Advanced BIOS Peatures			
Virus Warning	[Dissbled]	4	Item Help
Quice power on self test First Boot Device Second Boot Device Third Boot Device Boot Other Device Boot Other Device Swap Floppy Drive Boot Up NumLock Status Boot Up System Speed Gate A20 Option Typenatic Mass Setting Security Option OS Select For DRAM > FAMB Report No FDD For WIM 95 Video BIDS Shedow CCDD0-CFFFF Shedow D0000-D3FFF Shedow D0000-D3FFF Shedow D0000-DFFFF Shedow D0000-DFFFF Shedow D0000-DFFFF Shedow D0000-DFFFF Shedow	Disabled propey (strop) (st		Manu Laval + Allows you to choose the VINUS warning feature for IDE Mand Diak boot sector protection, if this function is enabled and someone attempt to write data into this area, BIDS will show a warning message on screen and alars beep
<pre>[]:Nove Enter:Select +/-, F5: Previous values F6</pre>	/PU/PD:Value Fail-Safe D	F10:Save	SC:Exit F1:General Hel 7: Optimized Defaults

PC/104 Module

3.5 Advanced Chipset Features

By choosing the Advanced Chipset Features option from the INITIAL SETUP SCREEN menu, the screen below is displayed.



3.6 Integrated Peripherals

By choosing the Integrated Peripherals from the INITIAL SETUP SCREEN menu, the screen below is displayed. This sample screen contains the manufacturer's default values for the PCM-5330.

Phoenix - I	AwardBIDS CMOS Setup L ntegrated Peripherals	ntility
On-Chip Local Bus IDE	[Enabled]	Item Help
IDE Buffer for DOS & Win The 2nd channel IDE IDE Primary Master PID IDE Primary Slave PID IDE Secondary Master PID IDE Secondary Master PID IDE HOD Block Mode Onboard Serial Port 1 Onboard Serial Port 2 Onboard Serial Port 3 Serial Port 3 Use INQ Onboard Serial Port 4 Sarial Port 3 Use INQ IIR Controller IIR Controller IIR Address Select IIR Mode IIR IND Select Onboard Parallel Port Parallel Port Use INQ Parallel Port Wede LPT2 ECP Mode Use DMA	Enabled] [Auto] [Auto] [Auto] [Auto] [Auto] [Auto] [Enabled] 2F6/1003 [Inabled] [Is8] [Inabled] [Is8] [Is9] [Is8]	Menu Leve] ►
:Hove Enter:Select +/- F5: Previous Values F6	/PU/PD:Value F10:Save : Fail-Safe Defaults	ESC:Exit FL:General Help F7: Optimized Defaults

3.7 Power management setup

By choosing the Power Management Setup from the INITIAL SETUP SCREEN menu, the screen below is displayed. This sample screen contains the manufacturer's default values for the PCM-5330.

Phoenix - AwardEIOS CMOS Setup Utility Power Hanagement Setup		
Power Management	[User Define]	Item Help
Video Off Option Video Off Nethod	[Susp. Stby -> Off] [V/W SYNC+8]ank]	Menu Level 🔸
HCD Power Down Doze Node	Disable] Disable]	
Standby Hode Suspend Hode	[Ofsable] [Ofsable]	
DMA Request (DRQ) PCI master device (PCDH)	[bisable] [bisab]e]	
Parallel I/O (PID) Serial I/O (SIO)	Disable] Disable]	
Floppy Disk Controller Hard Disk Controller	[b1sable] [b1sable]	
IRQ 15 - 1 Detection IRQ 0 Detection	[Enable] [Disable]	
MMI Detection	[Disable]	
-+:Nove Enter:Select +/- F5: Previous Values F6	/PU/PD:Value F10:Save : Fail-Safe Defaults	ESC:Exit F1:General Help F7: Optimized Defaults

3.8 PnP/PCI configuration

By choosing the PnP/PCI configurations from the Initial Setup Screen menu, the screen below is displayed. This sample screen contains the manufacturer's default values for the PCM-5330.

Phoenix - AwardBIOS CNOS Setup Utility PhP/PCE Configurations		
Reset Configuration Data	[Disabled]	Item Help
Resources Controlled By IAO Resources DEL Resources PCI/VGA Palette Snoop PCI Latency Timer(CLK)	[Auto(ESCD)] Press Enter Press Enter [Disabled] [32]	Menu Level • Default is Disabled, Select Enabled to reset Extended System configuration Data ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the OS cannot boot
:Move Enter:Select +/- F5: Previous Values F6	/PU/PD:value F10:5 : Fail-Safe Default:	ave ESC:Exit F1:General Hel; s F7: Optimized Defaults

3.9 Load Fail-Safe Defaults

When you press <Enter> on this item you get a confirmation dialog box with a message similar to:

Load Fail-Safe Default (Y/N)?

Pressing "Y" loads the BIOS default values for the most stable, minimal performance system operations.

3.10 Load Optimized Defaults

When you press <Enter> on this item you get a confirmation dialog box with a message similar to:

Load Optimized Defaults (Y/N)?

Pressing "Y" loads the default values that are factory settings for optimal performance system operations.

3.11 Set Password

To abort the process at any time, press Esc.

In the Security Option item in the BIOS Features Setup screen, select System or Setup:

System Enter a password each time the system boots and when-

ever you enter Setup.

Setup Enter a password whenever you enter Setup.

NOTE: To clear the password, simply press Enter when asked to enter a password. Then the password function is disabled.

Chapter3 Award BIOS Setup

3.12 Save & Exit setup

If you select this option and press <Enter>, the values entered in the setup utilities will be recorded in the chipset's CMOS memory. The microprocessor will check this every time you turn on your system and compare this to what it finds as it checks the system. This record is required for the system to operate.

3.13 Exit without saving

Selecting this option and pressing <Enter> allows you to exit the Setup program without recording any new value or changing old one.

PC/104 Module

Chapter

Driver Installation

The PCM-5330 comes with a CD-ROM which contains most of drivers and utilities of your needs.

We recommend that the system driver installation procedure must be performed first.

4.1 Installation 1:

Applicable for Windows 98SE

- 1. Insert the PCM-5330 CD-ROM into the CD-ROM Drive.
- 2. Click on **Start** button, select the **Settings**, then click on the **Control Panel** icon.
- 3. Double click on the Add/Remove Hardware icon and Add New Hardware Wizard will appear. Click on the Next button.
- 4. Select **Search for the best driver for your device (Recommended)** and click on the **Next** button.
- 5. Select **Specify a location**, click on **Have Disk** button then key in the CD-ROM path and specify component drivers and OS folders. Then click on the **Next** button.
- 6. The Wizard shows that Windows driver file search for the device: (For example, VGA devices of the board). Click on the **Next** button.
- 7. The system will ask you to insert Windows 98 CD Diskette. Click on the **OK** button to insert Diskette and key in path.
- 8. Click on the **OK** button.
- 9. Click on the **Finish** button to finish installation process. And allow the system to reboot.

Appendix

Programming the Watchdog Timer

Programming the watchdog timer

The PCM-5330 contains a watchdog timer reset pin (GP16). All reference material can be found below.

** Title: WatchDog Timer Setup Utility (for W83977 GP16)

** Company: AAEON Technology Inc.

** Compiler: Borland C ++ Version 3.0

#include <dos.h>
#include <io.h>
#include <bios.h>
#include <stdio.h>
#include <stdib.h>
#include <stdlib.h>
#include <conio.h>

/* Set I/O Address : 370/371 */ #define IO_INDEX_PORT 0x370 #define IO_DATA_PORT 0x371

/* Set Watchdog reset pin : 16 */ #define watch_dog_output_GP 16

#define UNLOCK_DATA	0x87
#define LOCK_DATA	0xAA
#define DEVICE_REGISTER	0x07

void EnterConfigMode()

Appendix A Programming the Watchdog Timer

```
{
    outportb(IO INDEX PORT, UNLOCK DATA);
    outportb(IO_INDEX_PORT, UNLOCK_DATA);
}
void ExitConfigMode()
ł
    outportb(IO INDEX PORT, LOCK DATA);
}
void SelectDevice(unsigned char device)
{
    outportb(IO_INDEX_PORT, DEVICE_REGISTER);
    outportb(IO_DATA_PORT, device);
}
unsigned char ReadAData(short int reg)
{
    outportb(IO_INDEX_PORT, reg);
    return (inportb(IO_DATA_PORT));
}
void WriteAData(unsigned char reg, unsigned char data)
{
    outportb(IO_INDEX_PORT, reg);
    outportb(IO_DATA_PORT, data);
}
void SetWatchDogTime(unsigned char time_val)
{
    EnterConfigMode();
    SelectDevice(8);
    //Set Register F2
```

//Set Watch-Dog Timer 1~ 256
WriteAData(0xF2, time_val);
//Set Register F3
//keyboard and mouse interrupt reset Enable

//When Watch-Dog Time-out occurs, Enable POWER LED

output

WriteAData(0xF3, 0x0E);

// set counter counts in second (or minute)

// Register F4 Bit 6 = 0/1 (minutes/seconds)

// For w83977EF only

WriteAData(0xF4, 0x42);

// ExitConfigMode();

}

void init_w83977tf_aw_watchdog()

{

short int value;

//Enter W83977 Configure Mode

// EnterConfigMode();

//Set Device Active WriteAData(0x30, 0x01);

//Select Device 7
SelectDevice(7);

```
//caution:skip this step will be a mistake!!
if (watch_dog_output_GP==12)
{
    //Set Register E2 to define GP12
    WriteAData(0xE2, 0x0A);
}
else if(watch_dog_output_GP==13)
{
```

```
//Set Register E3 to define GP13
          WriteAData(0xE3, 0x0A):
     }
    else if(watch_dog_output_GP==16)
     ł
          //Set Register E6 to define GP16
          WriteAData(0xE6, 0x0A);
     }
    //Set Device Active
     WriteAData(0x30, 0x01);
    //Select Device 8
11
    SelectDevice(8);
    //caution:skip this step will be a mistake!!
    if (watch dog output GP = = 12)
     {
          //Set Register 2A (PIN 57) Bit 7 = 0/1 (KBLOCK/GP12)
          //set to GP12 for WD Rst
          WriteAData(0x2A,ReadAData(0x2A) | 0x80);
     }
    else if(watch_dog_output_GP==13)
     ł
          //Set Register 2B (PIN 58) Bit 0 = 0/1 (KBLOCK/GP13)
          //set to GP13 for WD Rst
          WriteAData(0x2B,ReadAData(0x2B) | 0x01);
     }
    else if(watch_dog_output_GP==16)
     ł
          //Set Register 2C (PIN 119) Bit 5-4 = 01 (GP16)
          //set to GP16 for WD Rst
          WriteAData(0x2C,ReadAData(0x2C) | 0x10);
     }
```

```
//Exit W83977 Configure mode
     ExitConfigMode();
}
void main(int argc, char* argv[])
{
     int time_value=0;
     char *ptr;
     printf("WinBond 83977 WatchDog Timer Setup Utility Version 1.0
\n"):
     printf("Copyright (c) 2000 AAEON Technology Inc.\n");
     printf("This version only for W83977 that using GP%d to Reset
System.\n",watch dog output GP);
     if (argc == 1)
     {
           printf("\n Syntax: WATCHDOG [time] \n");
           printf(" time range : 1 \sim 256 \ln n);
           return :
     }
     if (argc > 1)
     ł
           ptr = argv[1];
           time_value = atoi(ptr);
     if (time_value > 0 && time_value < 256)
     {
           SetWatchDogTime((unsigned char) time_value);
           init w83977tf aw watchdog();
           printf("Watch Dog Timer set up : %d \n",time_value);
     }
}
```