

**Compact Board**

**PCM-6892 Rev.B**

**PCM-6892 Rev.B**

Intel® ULV Celeron®

400 / 650 MHz Processor

Compact Board

With LCD, Ethernet, TV-Out,

Mini PCI, Speaker out

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## Packing List

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

- 1 PCM-6892 Rev. B CPU Card
- 1 Jumper cap
- 1 Quick Installation Guide
- 1 CD-ROM for manual (in PDF format) and drivers

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

# Contents

## Chapter 1 General Information

|                          |     |
|--------------------------|-----|
| 1.1 Introduction .....   | 1-2 |
| 1.2 Features .....       | 1-4 |
| 1.3 Specifications ..... | 1-5 |

## Chapter 2 Quick Installation Guide

|   |      |
|---|------|
| 2.1 Safety Precautions .....                      | 2-2  |
| 2.2 Location of Connectors and Jumpers .....      | 2-3  |
| 2.3 Mechanical Drawing.....                       | 2-5  |
| 2.4 List of Jumpers .....                         | 2-7  |
| 2.5 List of Connectors .....                      | 2-8  |
| 2.6 Setting Jumpers.....                          | 2-10 |
| 2.7 Audio Out Selection (JP1) .....               | 2-11 |
| 2.8 LCD Voltage Selection (JP2) .....             | 2-11 |
| 2.9 TTL_LCD Clock Selection (JP3) .....           | 2-11 |
| 2.10 Clear CMOS (JP4) .....                       | 2-12 |
| 2.11 COM2 Ring / +5V / +12V Selection (JP5) ..... | 2-12 |
| 2.12 TV-Out Connector (CN1) .....                 | 2-12 |
| 2.13 TTL_LCD Connector (CN2) .....                | 2-13 |
| 2.14 VGA Display Connector (CN4) .....            | 2-14 |
| 2.15 ATX Power Connector (CN5) .....              | 2-14 |
| 2.16 TTL_LCD Connector(CN6) .....                 | 2-15 |
| 2.17 LVDS Connector (CN7) .....                   | 2-16 |

|   |      |
|---|------|
| 2.18 LAN1 LED Connector(CN8) .....                | 2-16 |
| 2.19 LAN2 LED Connector (CN9) .....               | 2-17 |
| 2.20 Audio Connector (CN10).....                  | 2-17 |
| 2.21 COM1~4 Connector (CN11) .....                | 2-18 |
| 2.22 USB Connector (CN12) .....                   | 2-19 |
| 2.23 IrDA Connector (CN14) .....                  | 2-19 |
| 2.24 Fan Connector (CN15).....                    | 2-20 |
| 2.25 PS/2 Keyboard & Mouse Connector (CN16) ..... | 2-20 |
| 2.26 Front Panel Connector(CN17) .....            | 2-20 |

## Chapter 3 Award BIOS Setup

|   |      |
|---|------|
| 3.1 System Test and Initialization. ....  | 3-2  |
| 3.2 Award BIOS Setup.....                 | 3-3  |
| 3.3 Standard CMOS Features .....          | 3-6  |
| 3.4 Advanced BIOS Features .....          | 3-7  |
| 3.5 Advanced Chipset Features .....       | 3-8  |
| 3.6 Integrated Peripherals .....          | 3-9  |
| 3.7 Power management Setup.....           | 3-11 |
| 3.8 PnP/PCI configuration .....           | 3-12 |
| 3.9 PC Health Status.....                 | 3-13 |
| 3.10 Frequency / Voltage control.....     | 3-14 |
| 3.11 Load Fail-Safe Defaults .....        | 3-15 |
| 3.12 Load Optimized Defaults.....         | 3-16 |
| 3.13 Set Supervisor / User Password ..... | 3-17 |
| 3.14 Save & Exit Setup.....               | 3-18 |
| 3.15 Exit without saving .....            | 3-19 |

## Chapter 4 Driver Installation

|  |     |
|--|-----|
| 4.1 Step 1 – Install VIA 4 in 1 Driver .....           | 4-3 |
| 4.2 Step 2 – Install Graphic Driver.....               | 4-3 |
| 4.3 Step 3 – Install Audio Driver .....                | 4-3 |
| 4.4 Step 4 – Install Ethernet Driver .....             | 4-4 |
| 4.5 Step 5 – Install PCMCIA Driver (Win 98 only) ..... | 4-4 |

## Appendix A I/O Information

|   |     |
|---|-----|
| A.1 I/O Address Map .....                       | A-2 |
| A.2 1 <sup>st</sup> MB Memory Address Map ..... | A-2 |
| A.3 IRQ Mapping Chart .....                     | A-3 |
| A.4 DMA Channel Assignments .....               | A-3 |

## Appendix B Programming The Watchdog Timer

|  |     |
|--|-----|
| B.1 Programming the Watchdog Timer ..... | B-2 |
|--|-----|

**Chapter**

**1**

**General  
Information**



## **1.1 Introduction**

---

PCM-6892 Rev. B is the extension of PCM-6892 Rev. A. This model possess all features in Rev. A but the only difference Intel® Ultra Low Voltage Celeron® 400/650MHz processor was introduced into Rev. B. With the processor, PCM-6892 Rev. B will own more excellent performance and lower power consumption than PCM-6892 Rev. A.

### **More options for your extension**

Compared with PCM-6892 Rev. A, the new PCM-6892 Rev. B owns Mini PCI slot. Mini PCI has the excellent ability for extension in your application. Therefore, Mini PCI can go with the extension devices such as Gigabit LAN, USB 2.0 or IEEE 1394 to pander the diverse applications.

### **Marvelous Graphic Accelerator**

VIA VT8606 built in 2D / 3D Graphic Accelerator can offer the high-resolution display quality and support 18/36 bit TTL or LVDS LCD Display, TV out. VIA VT8606 is a superior chipset with all kinds of integrations. Besides, the model is also integrated few functions such as Dual Ethernet, Audio, USB, Serial port, Parallel port and etc. Mentioned above is sufficient for your application. With 2 slots PCMCIA and Mini PCI plug, you can make a choice depend on your application and need.

### **High performance and Low power consumption**

Overall, PCM-6892 Rev. B provides an operating environment with low power consumption and multi-functions. The compact size and flexible

expand interface will be the best choice for the embedded application which has the severe condition for the space and environment.

## 1.2 Features

---

- Intel® Ultra Low Voltage Celeron 400 / 650 CPU onboard
- Support 18 / 36 bit TTL/LVDS TFT Panel
- Mini PCI Slot
- Support Type II PCMCIA Slot (Optional)
- 4 COMs / 4USB / CFD

### 1.3 Specifications

---

#### System

- CPU: Onboard Intel® Ultra Low Voltage Celeron® 400 /650MHz Processor
- Memory: Onboard one 168-pin DIMM socket support up to 512MB SDRAM
- Chipset: VIA VT8606 / VT82C686B
- BIOS: Award 256KB Flash BIOS
- Enhanced IDE: Supports up to two IDE devices. Support Ultra DMA100 mode with transfer rate up to 100MB / sec.
- FDD Interface: Support up to two floppy disk drives, 5.25 inch (360KB and 1.2 MB) and/or 3.5 inch (720KB, 1.44MB and 2.88MB)
- Parallel Port: One bi-directional parallel port. Support SPP, ECP and EPP modes.
- Serial Port: Three RS-232 serial ports and one RS-232 /422 / 485 serial ports. Ports can be configured as COM1, COM2, COM3, COM4 or disable individually. (16C550 equivalent)
- IrDA port: Support one IrDA Tx /Rx header
- KB / Mouse connector:

- USB connector: Support four USB 1.1 ports
- Battery: Lithium battery for data retention
- Watchdog timer: Can generate a system reset.
- Power Management: Support ATX or AT power supply.  
Support power saving standby modes.

## Display

Support CRT and LCD simultaneous/Independent display

- Chipset: VIA VT8606
- Memory size: Shared system memory up to 32 MB
- Resolutions: Up to 1600 X 1200 @ 16bpp for CRT
- Display Type: Support 18 / 36 bit TTL / dual channel LVDS TFT LCD. Can display CRT and flat panel simultaneously.
- TV-Out Interface: VIA 1621 support NTSC / PAL composite outputs

## I/O

- MIO: IDE (UDMA33) x 1, FDD x 1, KB + Mouse x 1, RS-232 x 3,

- IrDA: RS-232/422/485 x 1, Parallel x 1  
One IrDA Tx/Rx header
- Audio: VIA VT82C686B with AC-97 2.0  
compliant audio codec VT1612
- USB: Two 5x2 pin headers support 4 USB  
1.1 ports

## Chapter

# 2

## Quick Installation Guide

*Notice:*

*The Quick Installation Guide is derived from Chapter 2 of user manual. For other chapters and further installation instructions, please refer to the user manual CD-ROM that came with the product.*



## 2.1 Safety Precautions

---

**Warning!**

*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 a sudden rush of power can damage sensitive electronic components.*

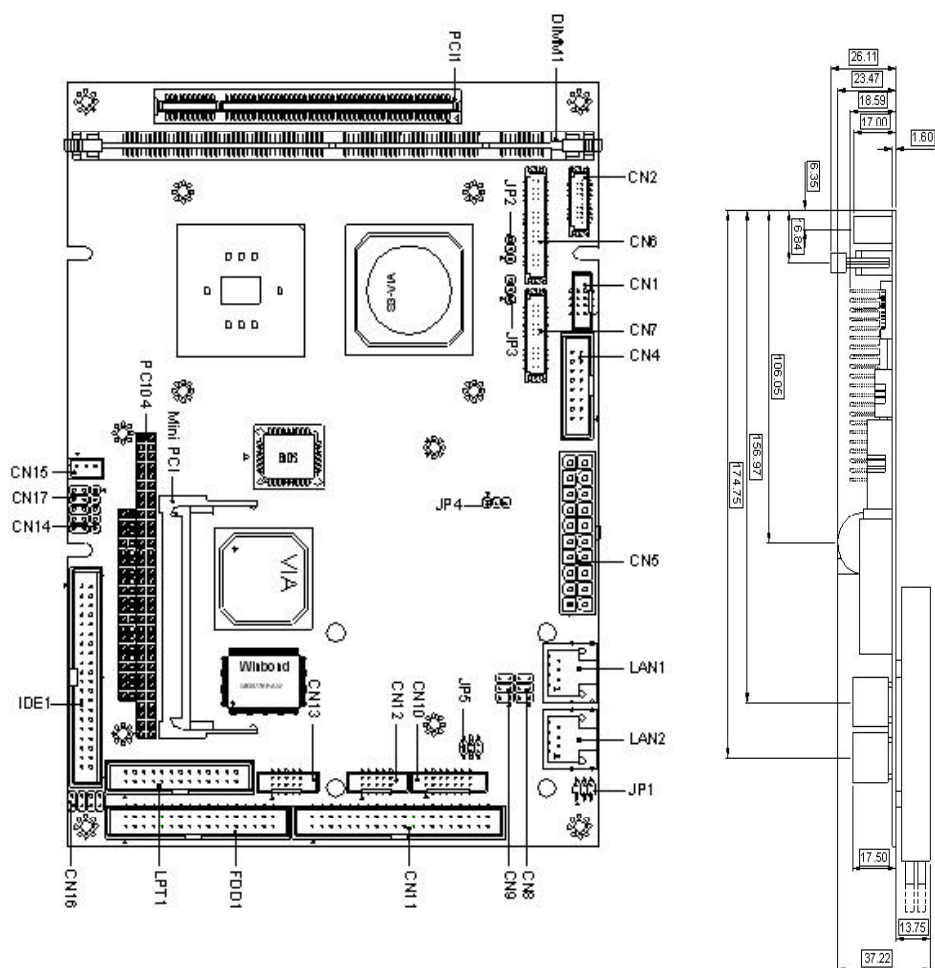
**Caution!**

*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*

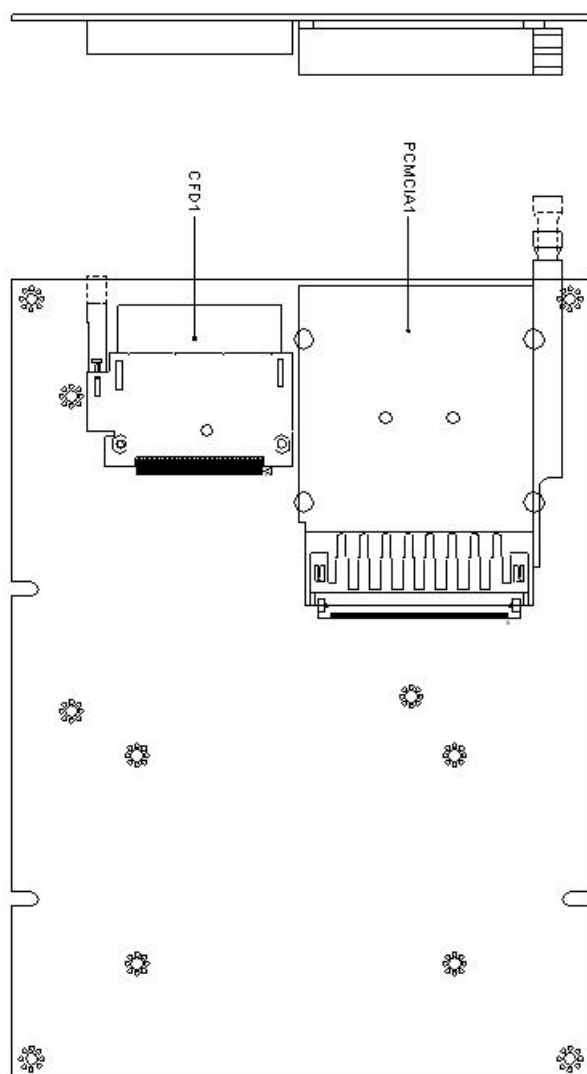


## 2.2 Location of Connectors and Jumpers

### Component Side

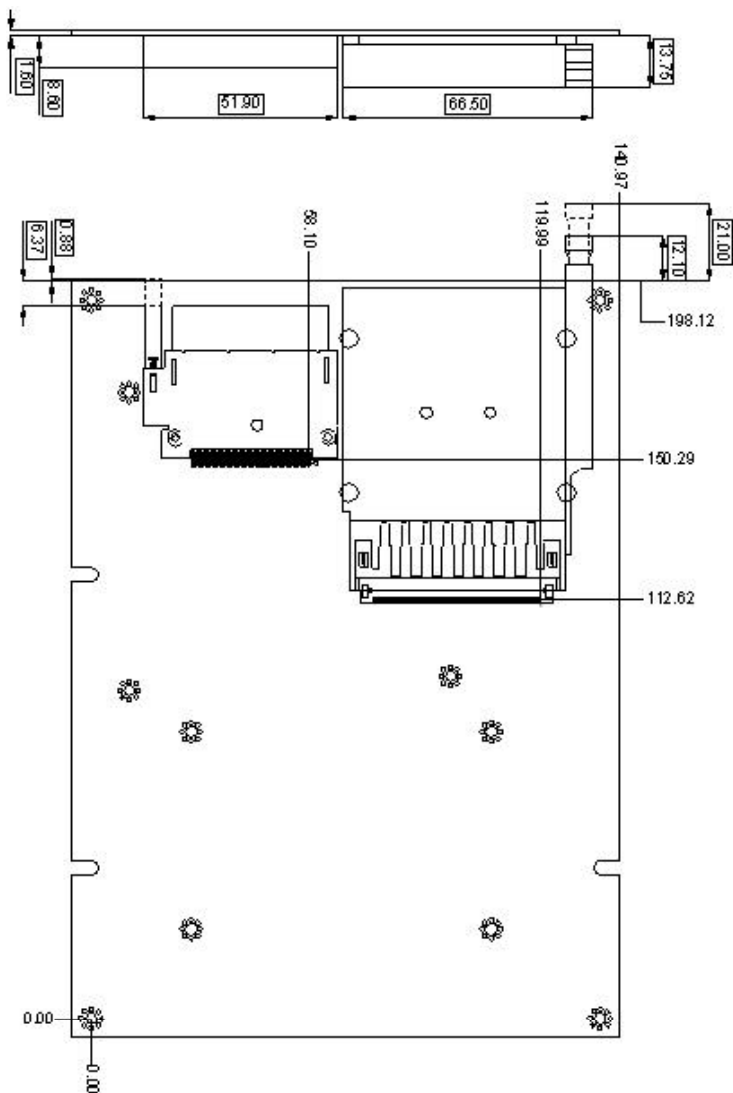


## Solder Side





## Solder Side



## 2.4 List of Jumpers

---

There are a number of jumpers in the board that allow you to configure your system to suit your application.

The table below shows the function of each jumper in the board:

### Jumpers

| <b>Label</b> | <b>Function</b>              |
|--------------|------------------------------|
| JP1          | Audio Out Selection          |
| JP2          | LCD Voltage Selection        |
| JP3          | TTL-LCD Clock Selection      |
| JP4          | Clear CMOS                   |
| JP5          | COM2 Ring/+5V/+12V Selection |

## 2.5 List of Connectors

---

There are a number of connectors in the board that allow you to configure your system to suit your application. The table below shows the function of each connector in the board:

### Connectors

| Label | Function                          |
|-------|-----------------------------------|
| CN1   | TV_Out Connector                  |
| CN2   | TTL_LCD Connector (DF-13 10 x 2)  |
| CN4   | VGA Display Connector             |
| CN5   | ATX Power Connector               |
| CN6   | TTL_LCD Connector (DF-13 20 x 2)  |
| CN7   | LVDS_LCD Connector (DF-13 15 x 2) |
| CN8   | LAN1 LED Connector                |
| CN9   | LAN2 LED Connector                |
| CN10  | Audio Connector                   |
| CN11  | COM1-4 Connector                  |
| CN12  | USB0/1 Connector                  |
| CN13  | USB2/3 Connector                  |
| CN14  | IrDA Connector                    |
| CN15  | Fan Connector                     |
| CN16  | PS/2 Keyboard/Mouse Connector     |
| CN17  | Front Panel Connector             |
| FDD-1 | Floppy Connector                  |

---

|         |  |
|---------|--|
| IDE1    | EIDE Connector                               |
| LPT1    | LPT Port Connector                           |
| LAN1    | 10/100 or 100/1000Base-Tx Ethernet Connector |
| LAN2    | 10/100 or 100/1000Base-Tx Ethernet Connector |
| PCI1    | PCI Slot                                     |
| MPCI1   | Mini PCI Slot                                |
| PCMCIA1 | PCMCIA Slot                                  |
| CFD1    | CompactFlash Slot                            |
| P104-AB | PC/104 Connector                             |
| P104-CD | PC-104 Connector                             |
| DIMM1   | DIMM Slot                                    |

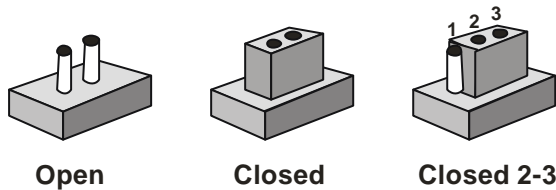
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## 2.6 Setting Jumpers

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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 change.

Generally, you simply need a standard cable to make most connections.



## 2.7 Audio Out Selection (JP1)

---

| JP1      | Function               |
|----------|------------------------|
| 1-3, 2-4 | W/O Amplifier          |
| 3-5, 4-6 | W/ Amplifier (Default) |

---

## 2.8 LCD Voltage Selection (JP2)

---

| JP2 | Function        |
|-----|-----------------|
| 1-2 | +5V             |
| 2-3 | +3.3V (Default) |

---

## 2.9 TTL-LCD Clock Selection (JP3)

---

| JP3 | Function      |
|-----|---------------|
| 1-2 | CLK (Default) |
| 2-3 | Reverse CLK   |

---

## 2.10 Clear CMOS (JP4)

---

| JP4 | Function            |
|-----|---------------------|
| 1-2 | Protected (Default) |
| 2-3 | Clear               |

## 2.11 COM2 Ring/+5V/+12V Selection (JP5)

---

| JP5 | Function       |
|-----|----------------|
| 1-2 | +12V           |
| 3-4 | +5V            |
| 5-6 | Ring (Default) |

## 2.12 TV-Out Connector (CN1)

---

| Pin | Signal | Pin | Signal |
|-----|--------|-----|--------|
| 1   | Y      | 2   | CVBS   |
| 3   | GND    | 4   | GND    |
| 5   | C      | 6   | N.C.   |
| 7   | GND    | 8   | N.C.   |

### 2.13 TTL\_LCD Connector (CN2)

---

| Pin | Signal  | Pin | Signal  |
|-----|---------|-----|---------|
| 1   | GND     | 2   | GND     |
| 3   | BLUE10  | 4   | BLUE11  |
| 5   | BLUE12  | 6   | BLUE13  |
| 7   | BLUE14  | 8   | BLUE15  |
| 9   | GREEN10 | 10  | GREEN11 |
| 11  | GREEN12 | 12  | GREEN13 |
| 13  | GREEN14 | 14  | GREEN15 |
| 15  | RED10   | 16  | RED11   |
| 17  | RED12   | 18  | RED13   |
| 19  | RED14   | 20  | RED15   |

## 2.14 VGA Display Connector (CN4)

---

| Pin | Signal | Pin | Signal |
|-----|--------|-----|--------|
| 1   | RED    | 2   | VGAVCC |
| 3   | GREEN  | 4   | GND    |
| 5   | BLUE   | 6   | N.C.   |
| 7   | N.C.   | 8   | SDATA  |
| 9   | GND    | 10  | H      |
| 11  | GND    | 12  | V      |
| 13  | GND    | 14  | SCLK   |
| 15  | GND    | 16  | N.C.   |

## 2.15 ATX Power Connector (CN5)

---

| Pin | Signal   | Pin | Signal |
|-----|----------|-----|--------|
| 1   | +3.3V    | 11  | +3.3V  |
| 2   | +3.3V    | 12  | -12V   |
| 3   | GND      | 13  | GND    |
| 4   | +5V      | 14  | PS_ON  |
| 5   | GND      | 15  | GND    |
| 6   | +5V      | 16  | GND    |
| 7   | GND      | 17  | GND    |
| 8   | POWER OK | 18  | -5V    |
| 9   | +5VSB    | 19  | +5V    |
| 10  | +12V     | 20  | +5V    |

## 2.16 TTL\_LCD Connector (CN6)

---

| Pin | Signal    | Pin | Signal |
|-----|-----------|-----|--------|
| 1   | +5V       | 2   | +5V    |
| 3   | GND       | 4   | GND    |
| 5   | +3.3V     | 6   | +3.3V  |
| 7   | ENBKL     | 8   | GND    |
| 9   | BLUE0     | 10  | BLUE1  |
| 11  | BLUE2     | 12  | BLUE3  |
| 13  | BLUE4     | 14  | BLUE5  |
| 15  | BLUE6     | 16  | BLUE7  |
| 17  | GREEN0    | 18  | GREEN1 |
| 19  | GREEN2    | 20  | GREEN3 |
| 21  | GREEN4    | 22  | GREEN5 |
| 23  | GREEN6    | 24  | GREEN7 |
| 25  | RED0      | 26  | RED1   |
| 27  | RED2      | 28  | RED3   |
| 29  | RED4      | 30  | RED5   |
| 31  | RED6      | 32  | RED7   |
| 33  | GND       | 34  | GND    |
| 35  | DOT_CLOCK | 36  | VSYNC  |
| 37  | DE        | 38  | HSYNC  |
| 39  | N.C.      | 40  | ENAE   |

## 2.17 LVDS Connector (CN7)

---

| Pin | Signal          | Pin | Signal          |
|-----|-----------------|-----|-----------------|
| 1   | ENBKL           | 2   | BKLCTL          |
| 3   | PPVCC           | 4   | GND             |
| 5   | LVDS_CH1_TXCLK- | 6   | LVDS_CH1_TXCLK+ |
| 7   | PPVCC           | 8   | GND             |
| 9   | LVDS_CH1_TX0-   | 10  | LVDS_CH1_TX0+   |
| 11  | LVDS_CH1_TX1-   | 12  | LVDS_CH1_TX1+   |
| 13  | LVDS_CH1_TX2-   | 14  | LVDS_CH1_TX2+   |
| 15  | N.C.            | 16  | N.C.            |
| 17  | I2C_DATA        | 18  | I2C_CLK         |
| 19  | LVDS_CH2_TX0-   | 20  | LVDS_CH2_TX0+   |
| 21  | LVDS_CH2_TX1-   | 22  | LVDS_CH2_TX1+   |
| 23  | LVDS_CH2_TX2-   | 24  | LVDS_CH2_TX2+   |
| 25  | N.C.            | 26  | N.C.            |
| 27  | PPVCC           | 28  | GND             |
| 29  | LVDS_CH2_TXCLK- | 30  | LVDS_CH2_TXCLK+ |

## 2.18 LAN1 LED Connector (CN8)

---

| Pin | Signal   | Pin | Signal |
|-----|----------|-----|--------|
| 1   | RX LED   | 2   | +3.3V  |
| 3   | Link LED | 4   | +3.3V  |
| 5   | TX LED   | 6   | +3.3V  |

## 2.19 LAN2 LED Connector (CN9)

---

| Pin | Signal   | Pin | Signal |
|-----|----------|-----|--------|
| 1   | RX LED   | 2   | +3.3V  |
| 3   | Link LED | 4   | +3.3V  |
| 5   | TX LED   | 6   | +3.3V  |

## 2.20 Audio Connector (CN10)

---

| Pin | Signal       | Pin | Signal       |
|-----|--------------|-----|--------------|
| 1   | MIC_IN       | 2   | MIC_+2.5V    |
| 3   | LINE_IN_GND  | 4   | CD_GND       |
| 5   | LINE_IN_L    | 6   | CD_IN_L      |
| 7   | LINE_IN_R    | 8   | CD_GND       |
| 9   | LINE_IN_GND  | 10  | CD_IN_R      |
| 11  | LINE_OUT_L   | 12  | LINE_OUT_R   |
| 13  | LINE_OUT_GND | 14  | LINE_OUT_GND |

## 2.21 COM1~4 Connector (CN11)

---

| Pin | Signal | Pin | Signal |
|-----|--------|-----|--------|
| 1   | DCD1   | 2   | DSR1   |
| 3   | RXD1   | 4   | RTS1   |
| 5   | TXD1   | 6   | CTS1   |
| 7   | DTR1   | 8   | RI1    |
| 9   | COMGND | 10  | N.C.   |
| 11  | DCD2   | 12  | DSR2   |
| 13  | RXD2   | 14  | RTS2   |
| 15  | TXD2   | 16  | CTS2   |
| 17  | DTR2   | 18  | RI2    |
| 19  | COMGND | 20  | N.C.   |
| 21  | DCD3   | 22  | DSR3   |
| 23  | RXD3   | 24  | RTS3   |
| 25  | TXD3   | 26  | CTS3   |
| 27  | DTR3   | 28  | RI3    |
| 29  | COMGND | 30  | N.C.   |
| 31  | DCD4   | 32  | DSR4   |
| 33  | RXD4   | 34  | RTS4   |
| 35  | TXD4   | 36  | CTS4   |
| 37  | DTR4   | 38  | RI4    |
| 39  | COMGND | 40  | N.C.   |



## 2.22 USB Connector (CN12)

---

| Pin | Signal | Pin | Signal |
|-----|--------|-----|--------|
| 1   | +5V    | 2   | GND    |
| 3   | USBD0- | 4   | GND    |
| 5   | USBD0+ | 6   | USBD1+ |
| 7   | GND    | 8   | USBD1- |
| 9   | GND    | 10  | +5V    |

| Pin | Signal | Pin | Signal |
|-----|--------|-----|--------|
| 1   | +5V    | 2   | GND    |
| 3   | USBD2- | 4   | GND    |
| 5   | USBD2+ | 6   | USBD3+ |
| 7   | GND    | 8   | USBD3- |
| 9   | GND    | 10  | +5V    |

## 2.23 IrDA Connector (CN14)

---

| Pin | Signal |
|-----|--------|
| 1   | +5V    |
| 2   | N.C.   |
| 3   | IRRX   |
| 4   | GND    |
| 5   | IRTX   |

## 2.24 Fan Connector (CN15)

---

| Pin | Signal      |
|-----|-------------|
| 1   | Speed Sense |
| 2   | +5V         |
| 3   | GND         |

## 2.25 PS/2 Keyboard & Mouse Connector (CN16)

---

| Pin | Signal        | Pin | Signal         |
|-----|---------------|-----|----------------|
| 1   | Keyboard DATA | 2   | Keyboard CLOCK |
| 3   | Keyboard GND  | 4   | Keyboard VCC   |
| 5   | Mouse DATA    | 6   | Mouse CLOCK    |
| 7   | N.C.          | 8   | N.C.           |

## 2.26 Front Panel Connector (CN17)

---

| Pin | Signal              | Pin | Signal              |
|-----|---------------------|-----|---------------------|
| 1   | Power On Button (-) | 2   | Power On Button (+) |
| 3   | IDE LED (-)         | 4   | IDE LED (+)         |
| 5   | External Buzzer (-) | 6   | External Buzzer (+) |
| 7   | Power LED (-)       | 8   | Power LED (+)       |
| 9   | Reset Switch (-)    | 10  | Reset Switch (+)    |

**Chapter**

**3**

**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-6892 REV.B 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 <Del> immediately. This will allow you to enter Setup.



### 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, keyboard, mouse etc.)

## **Power Management Setup**

Use this menu to specify your settings for power management. (HDD power down, power on by ring etc.)

## **PnP/PCI Configurations**

This entry appears if your system supports PnP/PCI.

## **PC Health Status**

This menu shows you the status of PC.

## **Frequency/Voltage Control**

This menu shows you the display of frequency/Voltage Control.

## **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 Supervisor/User Password**

Use this menu to set Supervisor/User Passwords.

## **Save and Exit Setup**

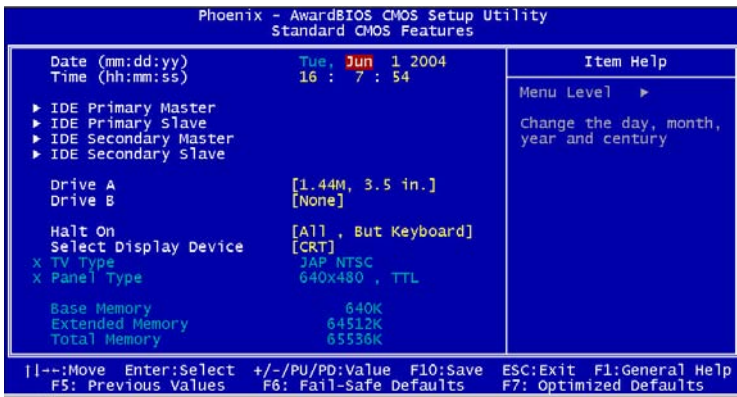
Save CMOS value changes to CMOS and exit setup.

## **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.





### 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-6892 REV.B

```

Phoenix - AwardBIOS CMOS Setup Utility
Advanced BIOS Features

Virus Warning [Disabled]
CPU Internal Cache [Enabled]
External Cache [Enabled]
CPU L2 Cache ECC Checking [Enabled]
Processor Number Feature [Enabled]
Quick Power On Self Test [Enabled]
First Boot Device [HDD-0]
Second Boot Device [Floppy]
Third Boot Device [LS120]
Boot Other Device [Enabled]
Swap Floppy Drive [Disabled]
Boot Up Floppy Seek [Enabled]
Boot Up NumLock Status [On]
Gate A20 Option [Fast]
Typematic Rate Setting [Disabled]
X Typematic Rate (Chars/Sec) 6
X Typematic Delay (Msec) 250
Security Option [Setup]
OS Select For DRAM > 64MB [Non-OS2]
Report No FDD For WIN 95 [Yes]
Video BIOS Shadow [Enabled]
C8000-CBFFF Shadow [Disabled]
CC000-CFFFF Shadow [Disabled]
D0000-D3FFF Shadow [Disabled]
D4000-D7FFF Shadow [Disabled]
D8000-DBFFF Shadow [Disabled]
DC000-DFFFF Shadow [Disabled]
Small Logo(EPA) Show [Disabled]

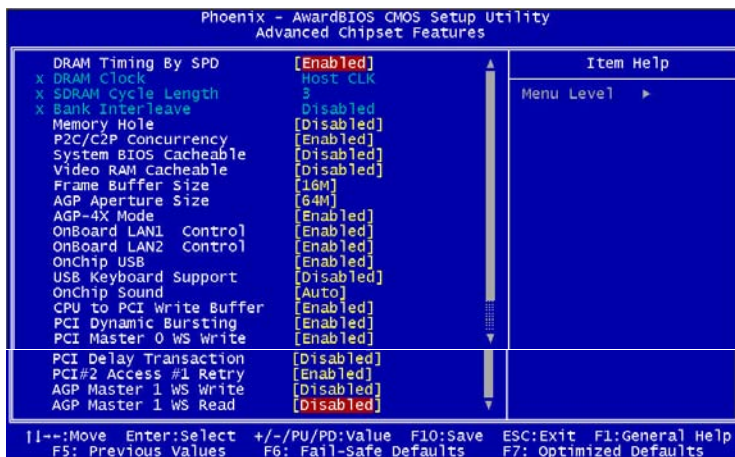
Item Help
Menu Level ▶
Allows you to choose
the VIRUS warning
feature for IDE Hard
Disk boot sector
protection. If this
function is enabled
and someone attempt to
write data into this
area , BIOS will show
a warning message on
screen and alarm beep

[ ]--:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

```

### 3.5 Advanced Chipset Features

By choosing the Advanced Chipset 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-6892 REV.B.



### 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-6892 REV.B.

| Phoenix - AwardBIOS CMOS Setup Utility |            |  | Item Help    |
|--|------------|--|--------------|
| Integrated Peripherals                 |            |  | Menu Level ▶ |
| OnChip IDE Channel0                    | [Enabled]  |  |              |
| OnChip IDE Channel1                    | [Enabled]  |  |              |
| IDE Prefetch Mode                      | [Enabled]  |  |              |
| Primary Master PIO                     | [Auto]     |  |              |
| Primary Slave PIO                      | [Auto]     |  |              |
| Secondary Master PIO                   | [Auto]     |  |              |
| Secondary Slave PIO                    | [Auto]     |  |              |
| Primary Master UDMA                    | [Auto]     |  |              |
| Primary Slave UDMA                     | [Auto]     |  |              |
| Secondary Master UDMA                  | [Auto]     |  |              |
| Secondary Slave UDMA                   | [Auto]     |  |              |
| Init Display First                     | [PCI Slot] |  |              |
| PCMCIA SERIRQ                          | [Disabled] |  |              |
| IDE HDD Block Mode                     | [Enabled]  |  |              |
| Onboard FDD Controller                 | [Enabled]  |  |              |
| Onboard Serial Port 1                  | [3F8/IRQ4] |  |              |
| Onboard Serial Port 2                  | [2F8/IRQ3] |  |              |
| COM2 Mode                              | [RS232]    |  |              |
| UART 2 Mode                            | [Standard] |  |              |
| * IR Function Duplex                   | Half       |  | Menu Level ▶ |
| * IR.RK inverting enable               | No. Yes    |  |              |
| Onboard Parallel Port                  | [378/IRQ7] |  |              |
| Onboard Parallel Mode                  | [Normal]   |  |              |
| ECP Mode Use DMA                       | [3]        |  |              |
| Parallel Port EPP Type                 | [EPP1.9]   |  |              |
| Onboard Serial Port 3                  | [3E8]      |  |              |
| Serial Port 3 Use IRQ                  | [IRQ10]    |  |              |
| Onboard Serial Port 4                  | [2E8]      |  |              |
| Serial Port 4 Use IRQ                  | [IRQ11]    |  |              |
| Onboard Legacy Audio                   | [Enabled]  |  |              |
| Sound Blaster                          | [Disabled] |  |              |
| SB I/O Base Address                    | [220H]     |  |              |
| SB IRQ Select                          | [IRQ 5]    |  |              |
| SB DMA Select                          | [DMA 1]    |  |              |
| MPU-401                                | [Disabled] |  |              |
| MPU-401 I/O Address                    | [330-333H] |  |              |

↑↓←→: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General  
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

### PCMCIA Card Support Limitation List of PCM-6892 Rev.B

COM 3 and 4 need to be disabled for supporting 16bit PCMCIA Card under Windows 98 SE and Windows 2000 at both ACPI and APM mode

To disable COM3 and COM4 for supporting 16bit PCMCIA cards, please enable the PCMCIA SERIRQ option in CMOS setting.

| Power mode             | OS     | COM 3, 4 | 16 bit PCMCIA | 32 bit PCMCIA |
|------------------------|--------|----------|---------------|---------------|
| APM<br>(5V only or AT) | Win 98 | Enable   | <b>F</b>      | <b>O</b>      |
|                        |        | Disable  | <b>O</b>      | <b>O</b>      |
|                        | Win 2K | Enable   | <b>F</b>      | <b>O</b>      |
|                        |        | Disable  | <b>O</b>      | <b>O</b>      |
|                        | Win XP | Enable   | <b>O</b>      | <b>O</b>      |
|                        |        | Disable  | <b>O</b>      | <b>O</b>      |
| ACPI<br>(ATX)          | Win 98 | Enable   | <b>F</b>      | <b>O</b>      |
|                        |        | Disable  | <b>O (*2)</b> | <b>O (*2)</b> |
|                        | Win 2K | Enable   | <b>F</b>      | <b>O</b>      |
|                        |        | Disable  | <b>O</b>      | <b>O</b>      |
|                        | Win XP | Enable   | <b>O</b>      | <b>O</b>      |
|                        |        | Disable  | <b>O</b>      | <b>O</b>      |

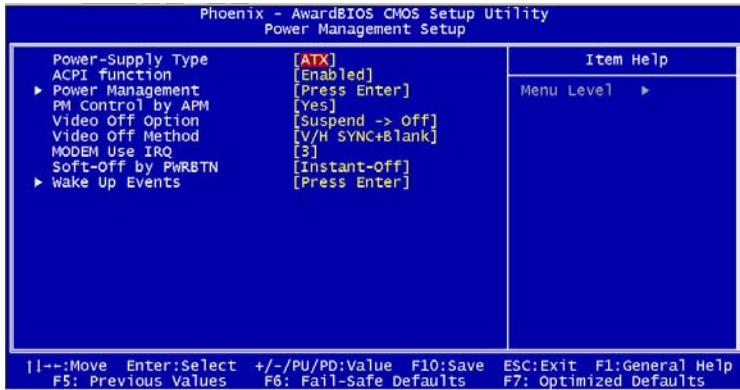
**Remark:**

\*1. "F" means Failed to support. "O" means OK.

\*2. Special AAEON driver is required for support PCMCIA Card under Windows 98 at ACPI model (see chapter 4)

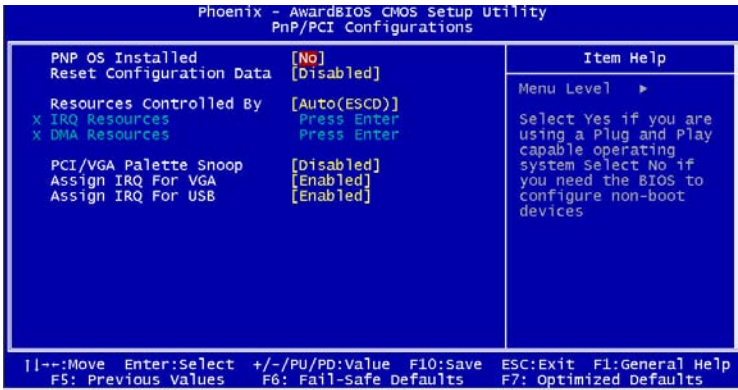
### 3.7 Power management Setup

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-6892 REV.B.



### 3.8 PnP/PCI configuration

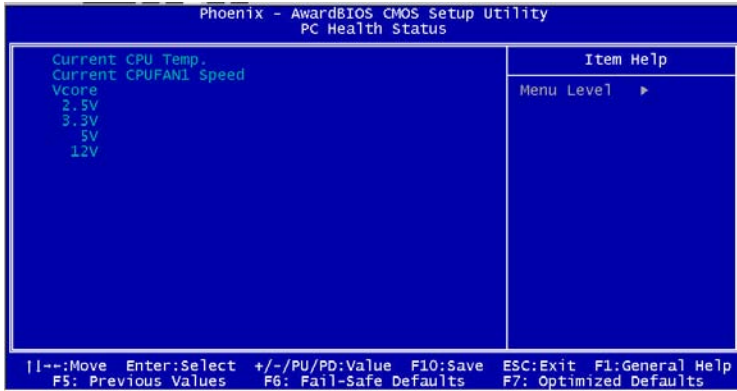
By choosing the PnP/PCI configurations from the Initial Setup Screen menu, the screen below is displayed. This sample screen contains the manufacturer's default values for the PCM-6892 REV.B.



### 3.9 PC Health Status

---

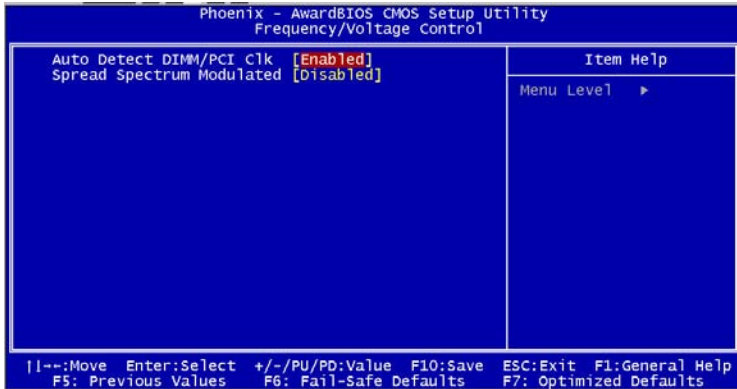
By choosing the PC Health Status from the Initial Setup Screen menu, the screen below is displayed. This sample screen contains the manufacturer's default values for the PCM-6892 REV.B.



### 3.10 Frequency/Voltage control

---

By choosing the Frequency/Voltage Control from the Initial Setup Screen menu, the screen below is displayed. This sample screen contains the manufacturer's default values for the PCM-6892 REV.B.



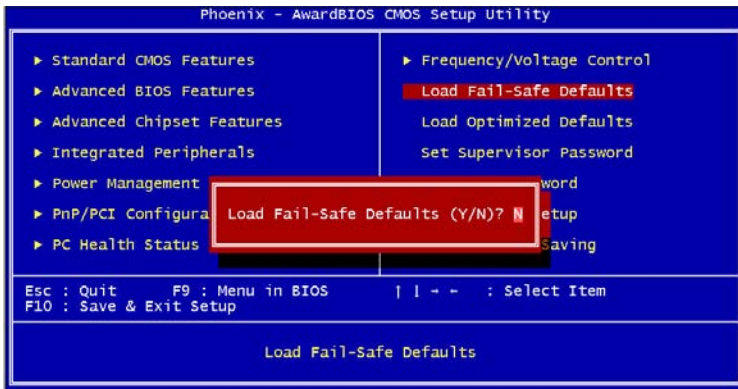


### 3.11 Load Fail-Safe Defaults

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.

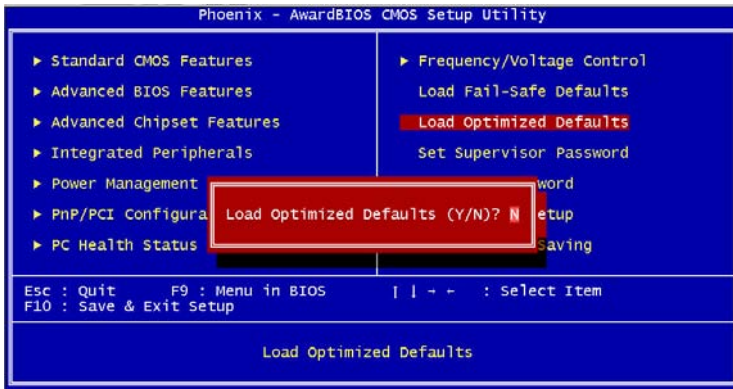


### 3.12 Load Optimized Defaults

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 manufacturer's settings for optimal performance system operations.



### 3.13 Set Supervisor/User Password

You can set either SUPERVISOR or USER PASSWORD, or both of them. The difference between the two is that the supervisor password allows unrestricted access to enter and change the options of the setup menus, while the user password only allows entry to the program, but not modify options.

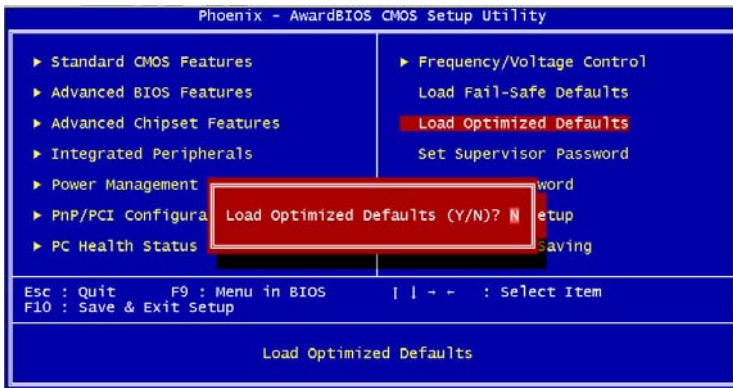
To abort the process at any time, press Esc.

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 whenever you enter Setup.

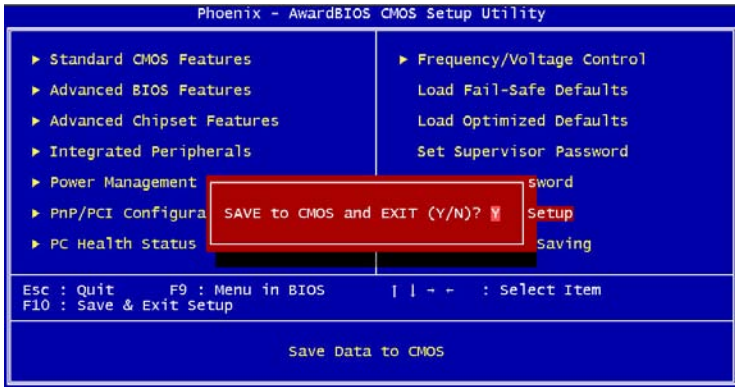
**Setup** Enter a password whenever you enter Setup.

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



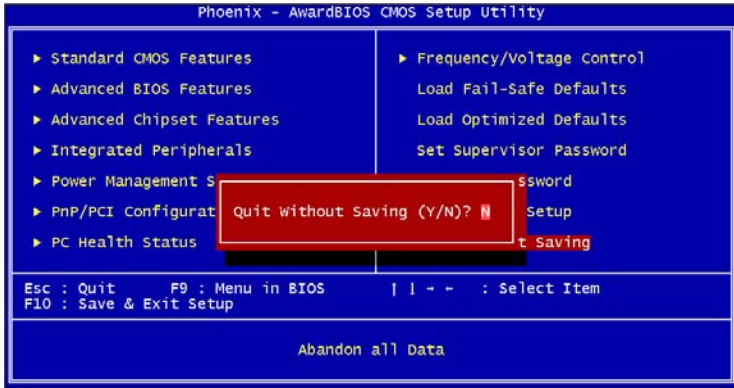
### 3.14 Save & Exit Setup

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.



### 3.15 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.



**Chapter**

**4**

**Driver  
Installation**

The PCM-6892 Rev.B comes with a CD-ROM that contains all drivers and utilities that you need for setup the system.

**Follow the sequence below to install the drivers:**

**Step 1 – Install VIA 4 in 1 driver**

**Step 2 – Install Graphic Driver**

**Step 3 – Install Audio Driver**

**Step 4 – Install Ethernet Driver**

**Step 5 – Install PCMCIA Driver (Win98 only)**

Please read instructions below for further detailed installations.

Insert the PCM-6892 Rev.B CD-ROM into the CD-ROM Drive.  
And install the drivers from Step 1 to Step 4 (5) in order.

#### **4.1 Step 1 – Install VIA 4 in 1 for Windows 98SE/2000/XP**

1. Double click on the “.exe” file.
2. Follow the instructions that the window will show you.
3. The system will help you install the driver automatically.

#### **4.2 Step 2 – Install Graphic Driver for Windows 98SE/2000/XP**

1. Choose the folder according to the OS you used and then double click on the “Setup.exe” file.
2. Follow the instructions that the window will show you.
3. The system will help you install the driver automatically.
4. Please re-start your computer.

#### **4.3 Step 3 – Install Audio Driver for Windows 98SE /2000/XP**

1. Double click on the “Setup.exe” file.
2. Follow the instructions that the window will show you.
3. The system will help you install the driver automatically.
4. Please re-start your computer.



#### **4.4 Step 4 – Install Ethernet Driver for Windows 98SE /2000/XP**

1. Double click on the “**Setup.exe**” file.
2. Follow the instructions that the window will show you.
3. The system will help you install the driver automatically.

#### **4.5 Step 5 – Install AAEON PCMCIA Driver for Windows 98SE**

1. Double click on the “**TiSetup.exe**” file.
2. Follow the instructions that the window will show you.
3. The system will help you install the driver automatically.

**Appendix**

**A**

**I/O Information**

## A.1 I/O Address Map

| Address | Description  | User Address |
|---------|--|--------------|
| 000-01F | DMA Controller #1                                  | 000-000F     |
| 020-03F | Interrupt Controller #1, Master                    | 020-021      |
| 040-05F | System Time  | 040-043      |
| 060-06F | 8042 (Keyboard Controller)                         | 060-064      |
| 070-07F | Real time Clock, NMI (non-maskable Interrupt) Mask | 070-073      |
| 080-09F | DMA Page Register                                  | 080-08F      |
| 0A0-0BF | Interrupt Controller #2                            | 0A0-0A1      |
| 0C0-0DF | DMA Controller #2                                  | 0C0-0DF      |
| 0F0-0FF | Math Coprpcessor                                   | 0F0-0FF      |
| 170-177 | Secondary IDE Channel                              | 170-177      |
| 1F0-1F7 | Primary IDE Channel                                | 1F0-1F7      |
| 278-27F | Parallel Printer Port 2 (LPT3)                     | 278-27F      |
| 2E8-2EF | Serial Port 4                                      | 2E8-2EF      |
| 2F8-2FF | Serial Port 2                                      | 2F8-2FF      |
| 378-37F | Parallel Printer Port 1 (LPT2)                     | 378-37F      |
| 3B0-3BF | Monochrome Display and Printer Adapter (LPT1)      | 3B0-3BF      |
| 3D0-3DF | EGA / VGA card                                     | 3D0-3DF      |
| 3E8-3EF | Serial Port 3                                      | 3E8-3EF      |
| 3F0-3F7 | Diskette Controller                                | 3F2-3F7      |
| 3F8-3FF | Serial Port 1                                      | 3F8-3FF      |

## A.2 1<sup>st</sup> MB Memory Address Map

| Memory Address | Description   |
|----------------|---------------|
| 00000-9FFFF    | System memory |
| A0000-BFFFF    | VGA buffer    |
| C0000-CFFFF    | VGA BIOS      |
| E0000-FFFFF    | System BIOS   |

### A.3 IRQ Mapping Chart

|      |                           |       |                                   |
|------|---------------------------|-------|-----------------------------------|
| IRQ0 | System Timer              | IRQ8  | System CMOS / Real time clock     |
| IRQ1 | Keyboard                  | IRQ9  | Microsoft ACPI – Compliant system |
| IRQ2 | Cascade to IRQ Controller | IRQ10 | COM3                              |
| IRQ3 | COM2                      | IRQ11 | COM4                              |
| IRQ4 | COM1                      | IRQ12 | PS/2 mouse                        |
| IRQ5 | Unused                    | IRQ13 | FPU                               |
| IRQ6 | Floppy Disk Controller    | IRQ14 | Primary IDE                       |
| IRQ7 | Printer                   | IRQ15 | Secondary IDE                     |

### A.4 DMA Channel Assignments

| DMA Channel | Function                        |
|-------------|---------------------------------|
| 0           | Available                       |
| 1           | Available                       |
| 2           | Standard Floppy Disk Controller |
| 3           | Available                       |
| 4           | Direct Memory Access Controller |
| 5           | Available                       |
| 6           | Available                       |
| 7           | Available                       |

**Appendix**

**B**

**Programming the  
Watchdog Timer**

## **B.1 Programming the Watchdog Timer**

---

PCM-6892 contains a watchdog timer reset pin. (GP16)

All reference material can be found on the following pages.

```

=====**
** 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 <stdlib.h>
#include <conio.h>

/* Set I/O Address : 370/371 or 3F0/3F1 */
#define IO_INDEX_PORT 0x370
#define IO_DATA_PORT 0x371

/* Set Watchdog reset pin : 12/13/16 */
#define watch_dog_output_GP 16
#define UNLOCK_DATA 0x87
#define LOCK_DATA 0xAA
#define DEVICE_REGISTER 0x07

void EnterConfigMode()
{
    outportb(IO_INDEX_PORT, UNLOCK_DATA);
    outportb(IO_INDEX_PORT, UNLOCK_DATA);
}

```

```
void ExitConfigMode()
{
    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 counter counts in second (or minute)
// Register F4 Bit 6 = 0/1 (minutes/seconds)
// For w83977EF only
WriteAData(0xF4, 0x40);
ExitConfigMode();
    }

void init_w83977tf_aw_watchdog()
{
short int value;
//Enter W83977 Configure Mode
EnterConfigMode();
//Select Device 7
SelectDevice(7);
//Set Device Active
WriteAData(0x30, 0x01);
//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)
{
//Set Register E6 to define GP16
WriteAData(0xE6, 0x0A);
}
//Select Device 8
SelectDevice(8);
//Set Register F3
//keyboard and mouse interrupt reset Enable
//When Watch-Dog Time -out occurs,Enable POWER LED
output
    WriteAData(0xF3, 0x0E);

//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)
{
//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)
{
//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( inBond 83977 WatchDog Timer Setup Utility w
Version 1.0\n" );
printf( copyright (c) 2000 AAEON Technology Inc.\n");C
printf( this version only for W83977 that using GP%d to T
Reset System.\n",watch_dog_output_GP);

if (argc == 1)
{
printf( n Syntax: WATCHDOG [time] \n" );\
printf(" time range : 1 ~ 256 \n\n" );
return ;
```

```
}
if (argc > 1)
{
ptr = argv[1];
time_value = atoi(ptr);
}
if (time_value > 0 && time_value < 256)
{
SetWatchDogTime((unsigned char) time_value);
init_w83977f_aw_watchdog();
printf( atch Dog Timer set up : %d\n",time_value);W
}
}
```