

## **AR-B1675**

**VIA Mark CoreFusion 800MHz, Half Size ,On Board  
SDRAM,VGA,LVDS with One SDRAM SO-DIMM, built in  
LAN,CF Type-II**

**Edition: 2.0**

**Book Number: AR-B1675-06.11.17**

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# 1

## Introduction

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### 1.1 Specifications:

**CPU** : Onboard VIA Mark CoreFusion 800MHz CPU.

**Chipset** : VIA VT82C686B South Bridge

**RAM memory** : Onboard 128M SDRAM and One SDRAM SO-DIMM Socket support to 1 GB/133MHz.

**Display Controller**: MARK integrated ProSavage 4 3D/2D Graphic Controller.

**Ultra DMA 133 IDE Interface** : One PCI Enhance IDE channel.

**CompactFlash™ interface** : Supports CompactFlash™ Type II socket for Compact Flash Disk or IBM Micro Drive.

**Series ports** : Two high-speed 16C550 compatible UARTs ports.COM2 can also support RS-422/485.

**Parallel Port**: IEEE-1284 compliant. Supports SPP/EPP/ECP mode.

**USB port** : Support Four USB 2.0 compatible ports.

**Audio Connector**: supports Line-in, Line-out, MIC-in.

**Digital IO**: Supports four digital-in, and four digital-out TTL-level I/O ports.

**PS/2 Mouse/Keyboard Connector**

**Watchdog timer** : Time setting form 1 to 4096 second / minute System Reset generate when CPU did not periodically trigger the timer.

**Intel LAN Controller**: 1 ports IEEE 802.3u Auto-Negotiation support for Realtek RTL8100C 10/100BASE-TX Connected to your LAN through RJ45 connector.

**Power Consumption** : 5V / 2.75A

**Operating Temperature** : 0° ~ 60° C

**Dimension:** 122mm(W) X 185mm(L)

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## **1.2 What You Have**

In addition to this *User's Manual*, the AR-B1675 package includes the following items:

AR-B1675 board

Setting Manual

Software utility CD

Serial port wired cable

Audio wired cable

PS/2 Mouse& Keyboard interface Y-cable

Hard disk drive adapter cable

USB port on one bracket cable

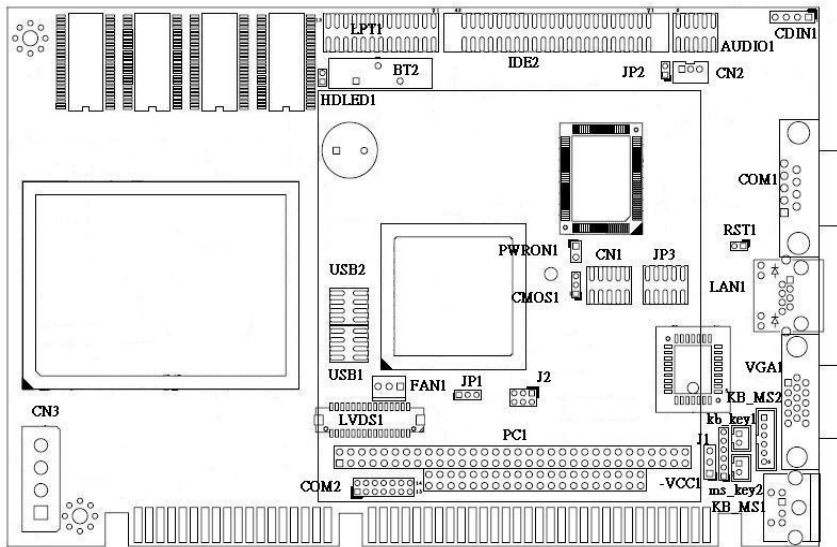
Parallel port cable

## 2

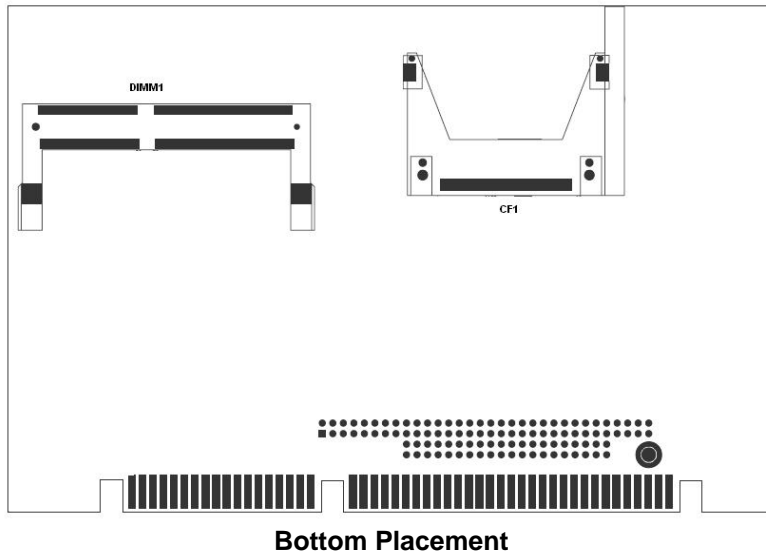
## Installation

This chapter describes how to install the AR-B1675. At first, the layout of AR-B1675 is shown, and the unpacking information that you should be careful is described. The jumpers and switches setting for the AR-B1675's configuration

### 2.1 AR-B1675's Layout



Top Placement

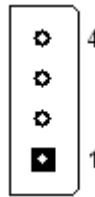




## 2.2 Power Button Setting

### • CN3 : Power Connector

PIN	DESCRIPTION
1	12V
2	GND
3	GND
4	5V



### • PWRON1 : Power Button Connector

Pin	DESCRIPTION
Open	Showdown
Short	Power ON



### • HDLED1 : HardDisk LED Connector

Pin	DESCRIPTION
1	+5V
2	HD_LED



### • RST1 : Reset Button Connector

Pin	DESCRIPTION
Open	Normal
Short	Reset System



### • CN2 : Power ON Pin Header


Pin	DESCRIPTION
1	5VSB
2	GND
3	PS_ON



## 2.3 CMOS Reset

- CMOS1 : CMOS pin header


CMOS1	DESCRIPTION
1-2	Normal Operation
2-3	Reset CMOS



## 2.4 Jumper description

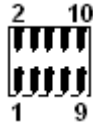
- JP2 : Select CF Master or Slave mode

JP2	DESCRIPTION
Short	Master
Open	Slave




- JP3 : COM1/2 Select RI is 12V/5V or signal

PIN	DESCRIPTION	PIN	DESCRIPTION
1	12V	2	12V
3	COM_RI1	4	COM_RI2
5	5V	6	5V
7	COM_RI1	8	COM_RI2
9	NRI1	10	NRI2



- J2 : Select COM2 is RS232 or RS422/485

J2	DESCRIPTION
1-2	RS232
3-4	RS422
5-6	RS485



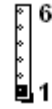
• **JP1: Select LCD Voltage**

JP1	DESCRIPTION
1-2	+3.3V
2-3	+5V



• **J1 : Inverter Power Connector**

PIN NO.	DESCRIPTION
1	+12V
2	+12V
3	GND
4	BKLTEN
5	GND
6	BKLTCTL



• **Kb\_key1: Keyboard Lock Connector**

JP1	DESCRIPTION
Short	Normal
Open	Lock



• **Ms\_key1: Mouse Lock Connector**

JP1	DESCRIPTION
Short	Normal
Open	Lock



# 3

## Connection

This chapter describes how to connect peripherals, switches and indicators to the AR-B1675 board.

### 3.1 Ultra ATA33 IDE Disk Drive Connector(IDE2)

You can attach two IDE( Integrated Device Electronics) hard disk drives to the AR-B1675 IDE controller.

#### IDE 2 : Secondary IDE Connector (44 Pins)

PIN	DESCRIPTION	PIN	DESCRIPTION
1	RESET#	2	GROUND
3	DATA 7	4	DATA 8
5	DATA 6	6	DATA 9
7	DATA 5	8	DATA 10
9	DATA 4	10	DATA 11
11	DATA 3	12	DATA 12
13	DATA 2	14	DATA 13
15	DATA 1	16	DATA 14
17	DATA 0	18	DATA 15
19	GROUND	20	N/C
21	N/C	22	GROUND
23	IOW#	24	GROUND
25	IOR#	26	GROUND
27	N/C	28	BALE
29	N/C	30	GROUND
31	INTERRUPT	32	IOCS16#
33	SA1	34	N/C
35	SA0	36	SA2
37	HDC CS0#	38	HDC CS1#
39	HDD ACTIVE#	40	GROUND
41	+5V LOGIC	42	+5V MOTOR
43	GROUND	44	TYPE

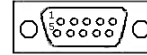


### 3.2 Serial Ports(COM2)

The AR-B1675 offers two high speeds NS16C550 compatible UARTs with Read/Receive 16 byte FIFO serial ports.

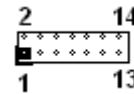
- **COM1 : RS-232 Serial port**

PIN	DESCRIPTION	PIN	DESCRIPTION
1	NDCD	2	NRX
3	NTX	4	NDTR
5	GND	6	NDSR
7	NRTS	8	NCTS
9	NR1A_12V	10	NC



- **COM2: RS-232 with RS-422/485 Serial port(Pin Header)**

PIN	DESCRIPTION	PIN	DESCRIPTION
1	NDCD	2	NDSR
3	NSIN	4	NRTS
5	NRIB	6	NCTS
7	NSOUT	8	NRI
9	GND	10	GND
11	TX+	12	TX-
13	RX+	14	RX-

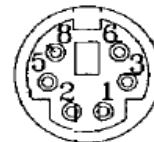


### 3.3 Keyboard / Mouse Connector(MS\_KB1,KB\_MS2)

A PS/2 type connector(MS\_KB1)is for easy connection to a keyboard and PS/2 mouse. The board comes with a Y split PS/2 cable for keyboard and mouse connection.

- **MS\_KB1 : Keyboard Mouse PS2 Port**

PIN	DESCRIPTION	PIN	DESCRIPTION
1	KB_DAT	2	MS_DAT
3	GND	4	+5V
5	KB_CLK	6	MS_CLK
7	GND	8	GND



- **KB\_MS1 : Keyboard Mouse JST Port**

PIN NO.	DESCRIPTION
1	+12V
2	+12V
3	GND
4	BKLTEN
5	GND
6	BKLTCTL

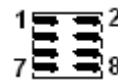


### 3.4 USB Port Connector(USB1~4)

The AR-B1675 provides four USB port, four pin header .

- **USB1/2/3/4: USB Connector(Pin header)**

PIN	DESCRIPTION	PIN	DESCRIPTION
1	VCC	2	GND
3	USB-	4	USB+
5	USB+	6	USB-
7	GND	8	VCC



### 3.5 Fan Connector (FAN1)

The AR-B1675 provides one connectors for CPU cooling fan.

- **FAN1: Fan Connector for CPU**

PIN NO.	DESCRIPTION
1	FANSP1
2	+5V
3	GNDI

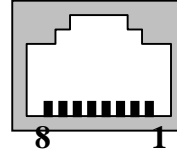


### 3.6 LAN RJ45 Connector (J4)

AR-B1675 is equipped with built-in 10/100Mbps Ethernet Controller. You can connect it to your LAN through RJ45 LAN connector. The pin assignments are as following:

- LAN1 : LAN RJ45 Connector

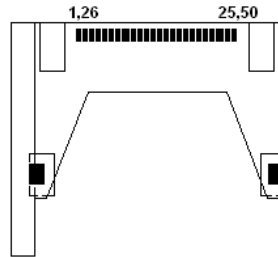
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	TX+	5.	N/C
2	TX-	6.	RX-
3.	RX+	7.	N/C
4.	N/C	8.	N/C



### 3.7 Compact Flash Storage Card Socket(CF1)

The AR-B1675 configures Compact Flash Storage Card in IDE Mode. This type II Socket is compatible with IBM Micro Drive.

- CF1 : Compact Flash Storage Card Socket pin assignment



PIN	DESCRIPTION	PIN	DESCRIPTION
1	GROUND	26	CARD DETECT1
2	D3	27	D11
3	D4	28	D12
4	D5	29	D13
5	D6	30	D14
6	D7	31	D15
7	CS1#	32	CS3#

8	N/C	33	N/C
9	GROUND	34	IOR#
10	N/C	35	IOW#
11	N/C	36	PULL HIGH
12	N/C	37	IRQ15
13	VCC	38	VCC
14	N/C	39	MASTER/SLAVE
15	N/C	40	N/C
16	N/C	41	RESET#
17	N/C	42	IORDY
18	A2	43	N/C
19	A1	44	PULL HIGH
20	A0	45	ACTIVE#
21	D0	46	PDIAG#
22	D1	47	D8
23	D2	48	D9
24	N/C	49	D10
25	CARD DETECT2	50	GROUND

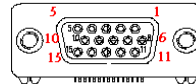
**Note:** If IDE2 & CFD1 both in used, CFD1 must be as "Master" & IDE2 is as "Slave".

### 3.8 VGA Connector(VGA1)

The AR-B1675 has a built-in 15-pin VGA connector accepting the CRT monitor

#### • VGA1 : 15-pin D-Sub Connector

PIN	DESCRIPTION	PIN	DESCRIPTION
1	L_RED	2	L_GREEN
3	L_BLUE	4	MON2PU
5	GND	6	GND
7	GND	8	GND
9	+5V	10	GND
11	MONOPU	12	5VDDCDA
13	HSYNC	14	VSYNC
15	5VDDCCL		

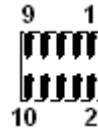




### 3.9 AUDIO Connector(AUDIO1)

- AUDIO1 : Audio Pin Header

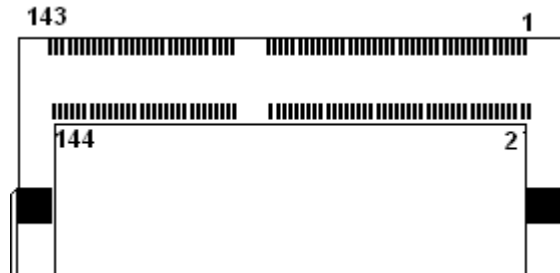
PIN	DESCRIPTION	PIN	DESCRIPTION
1	LINE OUT R	2	LINE OUT L
3	GND	4	GND
5	LINE IN R	6	LINE IN L
7	MIC IN	8	GND
9	GND	10	GND



### 3.10 SDRAM SODIMM Socket (DIMM1)

There are one 144-pin SDRAM DIMM slots to accept 3.3V. The max Memory size is 1GB.

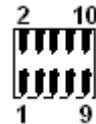
- DIMM1



### 3.11 8-BIT GPIO Connector(CN1)

- CN1: 4 BIT Input/Output GPIO Connector

PIN	DESCRIPTION	PIN	DESCRIPTION
1	GND	2	+5V
3	DIOI0	4	DIOO0
5	DIOI1	6	DIOO1
7	DIOI2	8	DIOO2
9	DIOI3	10	DIOO3



### 3.12 Parallel port(LPT1)

This port is usually connected to a printer. The AR-B1675 cludes an on-board parallel port.

- LPT1: Parallel Port Connector

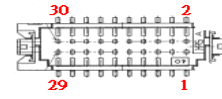
PIN	DESCRIPTION	PIN	DESCRIPTION
1	STB-	14	AFD-
2	PD0	15	ERR-
3	PD1	16	INIT-
4	PD2	17	SLIN-
5	PD3	18	GND
6	PD4	19	GND
7	PD5	20	GND
8	PD6	21	GND
9	PD7	22	GND
10	ACK-	23	GND
11	BUSY	24	GND
12	PE	25	GND
13	SLCT	26	X



### 3.13 LVDS Connector(LVDS1)

- LVDS1 : LVDS Interface Connector

PIN	DESCRIPTION	PIN	DESCRIPTION
1	LCDVDD	2	GND
3	TRXEC-	4	TRXEC+
5	GND	6	TRXE2-
7	TRXE2+	8	GND
9	TRXE1-	10	TRXE1+
11	NC	12	NC
13	TRXE0+	14	TRXE0-
15	GND	16	TRXOC+
17	TRXOC-	18	GND
19	TRXO2+	20	TRXO2-
21	NC	22	TRXO1+
23	TRXO1-	24	NC
25	TRXO0+	26	TRXO0-
27	NC	28	NC
29	LCDVDD	30	LCDVDD



# 4

## Award BIOS Setup

---

### 4.1 Introduction

This chapter discusses the Setup program built into the BIOS. The Setup program allows users to configure the system. This configuration is then stored in battery-backed CMOS RAM so that it retains the Setup information while the power is off.

---

### 4.2 Starting Setup

The BIOS is immediately active when you turn on the computer. While the BIOS is in control, the Setup program can be activated in one of two ways:

1. By pressing <Del> immediately after switching the system on, or
2. By pressing the <Del> key when the following message appears briefly at the bottom of the screen during the POST (Power On Self-Test).

**Press DEL to enter SETUP.**

If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the "RESET" button on the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys. If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will again be asked to...

**PRESS F1 TO CONTINUE, DEL TO ENTER SETUP**

### 4.3 Using Setup

In general, you can use the arrow keys to highlight items, press <Enter> to select, use the PageUp and PageDown keys to change entries, press <F1> for help and press <Esc> to quit. The following table provides more details about how to navigate in the Setup program using the keyboard.

Key	Function
Up Arrow	Move to the previous item
Down Arrow	Move to the next item
Left Arrow	Move to the item on the left (menu bar)
Right Arrow	Move to the item on the right (menu bar)
Esc	Main Menu: Quit without saving changes Submenus: Exit Current page to the next higher level menu
Move Enter	Move to the item you desired
PgUp key	Increase the numeric value or make changes
PgDn key	Decrease the numeric value or make changes
+ key	Increase the numeric value or make changes
- key	Decrease the numeric value or make changes
Esc key	Exit Menu -- Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu -- Exit current page and return to Main Menu
F1 key	General help on Setup navigation keys
F5 key	Load previous values from CMOS
F6 key	Load the fail-safe defaults from BIOS default table
F7 key	Load the optimized defaults
F10 key	Save all the CMOS changes and exit

## 4.4 Main Menu

The items in Standard CMOS Setup Menu are divided into 8 categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

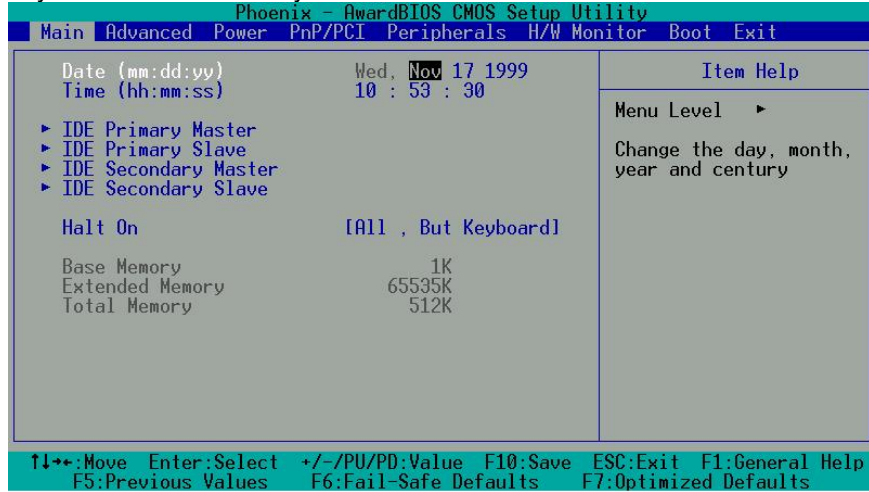


Figure 1: The Main Menu

### Main Menu Selections

Item	Options	DESCRIPTION
Date	MM DD YYYY	Set the system date.
Time	HH : MM : SS	Set the system time
IDE Channel Master	Options are in its sub menu (described in Table 3)	Press <Enter> to enter the sub menu of detailed options
IDE Channel Slave	Options are in its sub menu (described in Table 3)	Press <Enter> to enter the sub menu of detailed options
Halt On	All Errors No Errors	Select the situation in which you want the BIOS

	All, but Keyboard All, but Diskette All, but Disk/Key	to stop the POST process and notify you
Base Memory	N/A	Displays the amount of conventional memory detected during boot up
Extended Memory	N/A	Displays the amount of extended memory detected during boot up
Total Memory	N/A	Displays the total memory available in the system

Table 1 Main Menu Selections

**IDE Adapters**

The IDE adapters control the hard disk drive. Use a separate sub menu to configure each hard disk drive.

Figure 2 shows the IDE primary master sub menu.

IDE HDD Auto-Detection[Press Enter]

IDE Channel Master[Auto]

Access Mode [Auto]

Capacity0MB

Cylinder0

Head0

Precomp0

Landing Zone0

Sector0

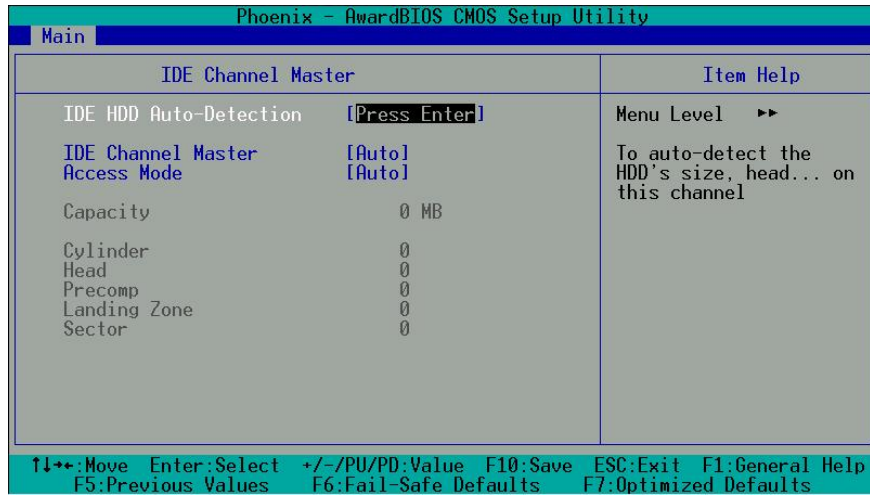


Figure 2 IDE Primary Master sub menu

Use the legend keys to navigate through this menu and exit to the main menu. Use Table 2 to configure the hard disk.

Item	Options	DESCRIPTION
IDE HDD Auto-detection	Press Enter	Press Enter to auto-detect the HDD on this channel. If detection is successful, it fills the remaining fields on this menu.
IDE Channel Master	None Auto Manual	Selecting 'manual' lets you set the remaining fields on this screen. Selects the type of fixed disk. "User Type" will let you select the number of cylinders, heads, etc. Note: PRECOMP=65535



		means NONE !
Capacity	Auto    Display your disk drive size	Disk drive capacity (Approximated). Note that this size is usually slightly greater than the size of a formatted disk given by a disk checking program.
Access Mode	CHS LBA Large Auto	Choose the access mode for this hard disk

Table 2 Hard disk selections

## 4.5 Advanced BIOS Features

This section allows you to configure your system for basic operation.

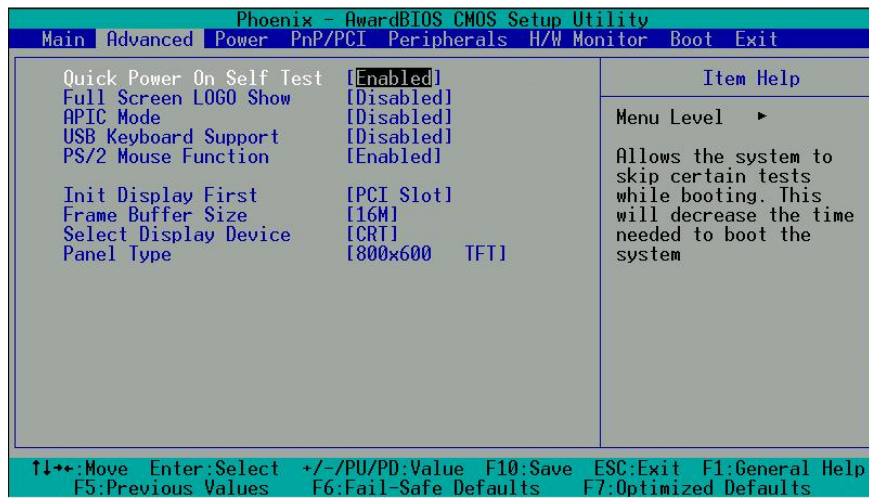


Figure 3 Advanced menu

**APIC Mode**

This item allows use Advanced Programmable Interrupt Controller feature. The Choice: Enabled, Disabled.

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**Quick Power On Self Test**

This category speeds up Power On Self Test (POST) after you power up the computer. If it is set to Enable, BIOS will shorten or skip some check items during POST.

Enabled	Enable quick POST
Disabled	Normal POST

**Full Screen LOGO Show**

This item allows you to enable or disable show full screen LOGO. The Choice: Enabled, Disabled.

**USB Keyboard Support**

This item allows you to enable or disable USB keyboard support. The Choice: Enabled, Disabled.

**PS/2 Mouse Function**

Disabled-prevents any installed PS/2 mouse from functioning but frees up IRQ12. Enabled-allows the operating system to determine whether to enable or disable the mouse. Choice: Enabled, Disabled.

**Init Display First**

This item allows you to choose which Display to be first detected. The Choice: PCI Slot, On Board / AGP.

**Frame Buffer Size**

This item allows you to Choose the Frame Buffer size for Display. The Choice: 1MB, 4MB, 8MB, 16MB, 32MB.

**Select Display Device**

This item allows you to choose display interface.

The Choice: Vbios default, CRT, CRT + LCD, CRT + LVDS.

### **Panel Type**

This item allows you to choose display panel type and resolution.  
The Choice: 640x480,800x600,1024x768.

## **4.6 PnP/PCI Configuration Setup**

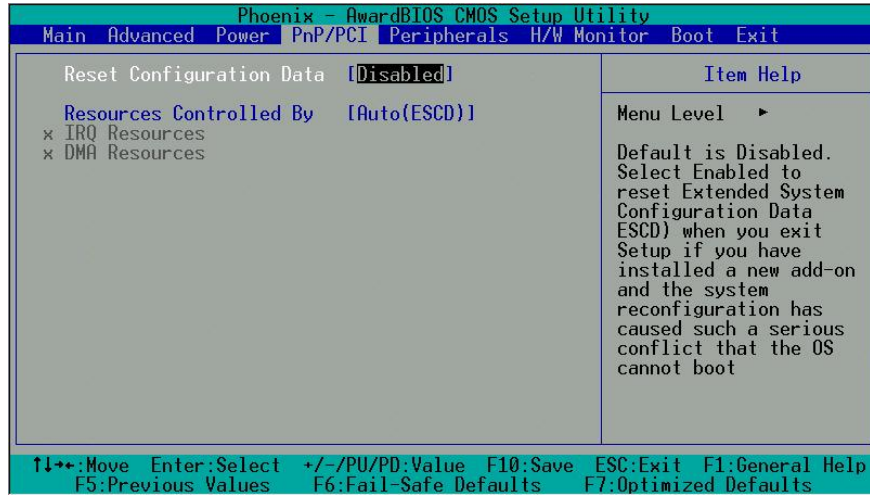


Figure 4 PnP/PCI menu

### **Resource controlled by**

The Award Plug and Play BIOS has the capacity to automatically configure all of the boot and Plug and Play compatible devices. However, this capability means absolutely nothing unless you are using a Plug and Play operating system such as Windows®95. If you set this field to "manual" choose specific resources by going into each of the sub menu that follows this field (a sub menu is preceded by a ">").  
The choice: Auto(ESCD), Manual.

---

**IRQ Resources**

When resources are controlled manually, assign each system interrupt a type, depending on the type of device using the interrupt.

---

**IRQ3/4/5/7/9/10/11/12/assigned to**

This item allows you to determine the IRQ assigned to the ISA bus and is not available to any PCI slot. Legacy ISA for devices compliant with the original PC AT bus specification, PCI/ISA PnP for devices compliant with the Plug and Play standard whether designed for PCI or ISA bus architecture.

The Choice: PCI Device, Reserved.

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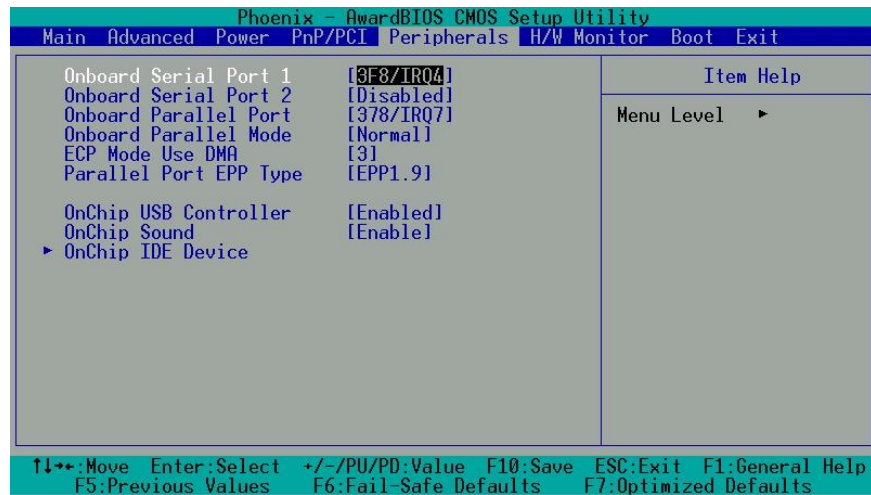
**4.7 Peripheral**

Figure 5 Peripheral menu

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**Onboard Serial Port 1/Port 2**

Select an address and corresponding interrupt for the first and second serial ports.

The choice: 3F8/IRQ4, 2E8/IRQ3, 3E8/IRQ4, 2F8/IRQ3, Disabled

---

#### **Onboard Parallel Port**

Select 3BC/IRQ7 to enable On Board Parallel Port as first Parallel Interface.

The choice: Disable, 378/IRQ7, 278/IRQ5, 3BC/IRQ7.

---

#### **OnChip USB Controller**

Select *Enabled* if your system contains a Universal Serial Bus (USB) controller and you have USB peripherals.

The Choice: Enabled, Disabled.

#### **OnChip Sound**

The Choice: Auto, Disabled.

---

### **4.8 H/W Monitor**

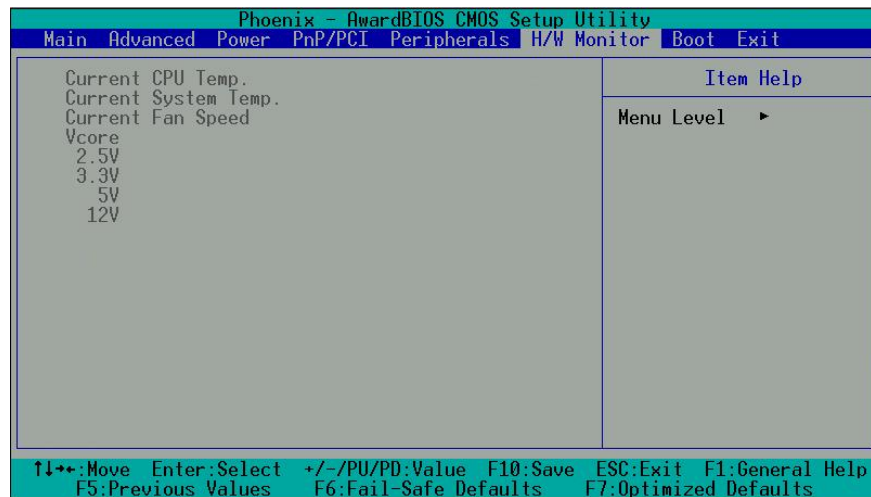


Figure 6 H/W Monitor menu

## 4.9 Boot

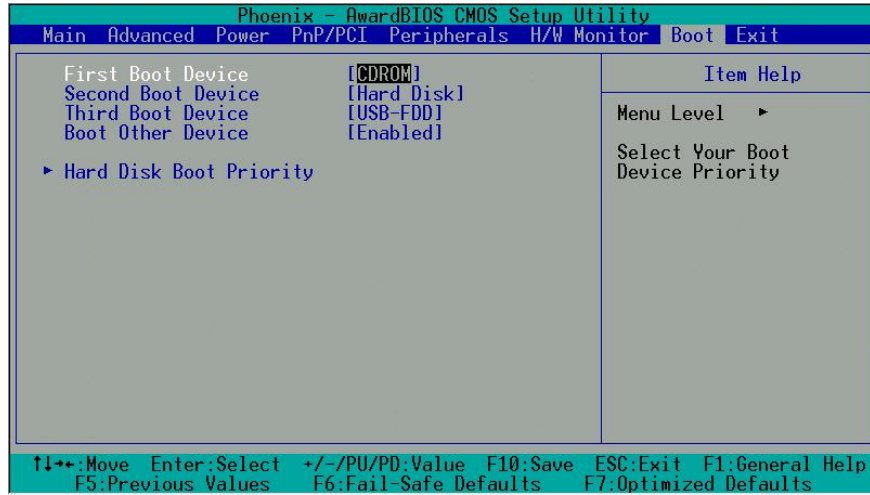


Figure 7 Boot menu

### ***First/Second/Third/Other Boot Device***

The BIOS attempts to load the operating system from the devices in the sequence selected in these items.

The Choice:

- Hard Disk .....[ ]
- CDROM.....[ ]
- USB-FDD .....[ ]
- USB-ZIP .....[ ]
- USB-CDROM....[ ]
- LAN.....[ ]

- Disabled.....[ ]

## 4.10 Exit Selecting

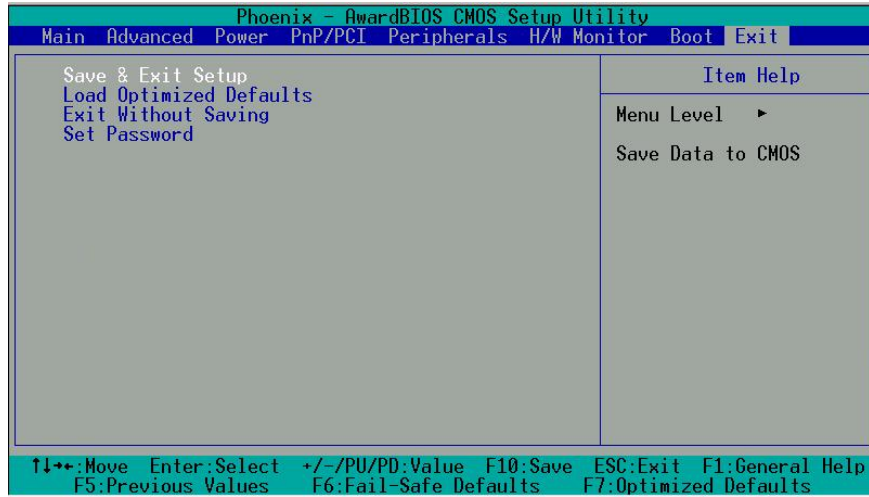


Figure 8 Exit menu

- Save & Exit Setup
- Load Optimized Defaults
- Exit Without Saving
- Set Password

### Save & Exit Setup

Pressing <Enter> on this item asks for confirmation:

**Save to CMOS and EXIT (Y/N)?** **Y**

Pressing “Y” stores the selections made in the menus in CMOS – a special section of memory that stays on after you turn your system off.

The next time you boot your computer, the BIOS configures your system according to the Setup selections stored in CMOS. After saving the values the system is restarted again.

### **Load Optimized Defaults**

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

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

Load Optimized Defaults (Y/N) ? **N**

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

### **Exit Without Saving**

Pressing <Enter> on this item asks for confirmation:

**Quit without saving (Y/N)? Y**

This allows you to exit Setup without storing in CMOS any change. The previous selections remain in effect. This exits the Setup utility and restarts your computer.