EX-92622A Box PC
User Manual

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Warning!

This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, it may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

Electric Shock Hazard – Do not operate the machine with its back cover removed. There are dangerous high voltages inside.

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Table of Contents

Warning!……2
Disclaimer……2

Chapter 1 Getting Started

1.1 Brief Description of EX-92622A…….....5
1.2 Specifications……..…6
1.3 Dimensions……..……8
1.4 Installation of PCI Expansion Add on Cards…….....9
1.5 Installation of HDD…….....10

Chapter 2 Hardware Installation

2.1 Main Board…….....12
2.2 Installing the CPU……..…13
2.3 Installing the Memory……..……14
2.4 Installing the Jumpers.....15
2.5 Installing the Connectors.....29

Chapter 3 BIOS Setup

3.1 Entering Setup……43
3.2 Control Keys……..……...43
3.3 Getting Help……44
3.4 The Main Menu……43
3.5 Standard CMOS Setup Menu……45
3.6 Advanced BIOS Features……46
3.7 Advanced Chipset Features……51
3.8 Integrated Peripherals……53
3.9 Power Management Setup……56
3.10 PnP/PCI Configuration Setup……..59
3.11 PC Health Status……60
3.12 Frequency/voltage Control……..61
3.13 Load Optimized Defaults..……..62
3.14 Set supervisor/User Password……..63

3.15 Save & Exit setup……..63
3.16 Exit Without Saving……64

Chapter 4 Driver Installation

4.1 Intel Chipset Software Installation Utility……..66
4.2 VGA Driver Installation……68
4.3 LAN Driver Installation……71
4.4 AC'97 Codec Audio Driver Installation……..76

Figures

Figure 1.1: Front View of EX-92622A ……5
Figure 1.2: Rear View of EX-92622A……5
Figure 1.3: Dimension of EX-92622A……..8
Figure 2.1: Mainboard Overview……..12
Figure 2.2: Installation of CPU……...13
Figure 2.3: Installation of Memory Module……..…… 14
Figure 2.4: Location of Jumper……..……..15

Chapter 1 System

1.1 Brief Description of the EX-92622A

The EX-92622A is a fanless, rugged and ultra-compact standalone box PC. It is powered by Intel Celeron M 1.5GHz up to Pentium M 1.8GHz processor and thus, it offers optimal heat dissipation and low-power consumption without sacrificing the speed you need.

Figure 1.1: Front View of EX-92622A

Figure 1.2: Rear View of EX-92622A

1.3 Specifications

System

CPU:
Intel Celeron M 1.5GHz processor/Pentium M 1.8GHz processor / 400MHz FSB

Chipset:
Intel® 910GMLE & ICH6M

System Memory:
2 x 240-pin DDR2 DIMM sockets / Maximum to 2 GB DDR2 memory

Storage:
Support 1 x 2.5” SATA HDD, 1 x on board CompactFlash Type II Scoket (optional)

BIOS:
Phoenix-Award BIOS, Y2K compliant
4Mbit Flash, DMI, Plug and Play
SmartView for multiple LCD type selection, display mode option and application extension features
RPL/PXE Ethernet Boot ROM
“Load Optimized Default” to backup customized Setting in the BIOS flash chip to prevent from CMOS battery fail

CD-ROM:
One slim DVD combo space

Watchdog:
1~255 sec. Seconds, up to 255 levels

Ethernet:
Two RTL8111B Gigabit Ethernet / Equipped with RJ-45 interface
Wake on LAN (via ATX Power Supply)

VGA:
Intel 910GMLE Gen 3.5 integrated graphics engine.

Expansion Slot:
Support two PCI Slots by Riser Card.

Edge Connectors:
1 x PS/2 Key board
1 x PS/2 mouse
1 x Min-in
1 x Line-out
4 x USB External (4 x USB Internal)
1 x VGA
3 x RS232 External (3 x RS-232 internal)
2 x RJ 45

Certification:
Meet CE & FCC Class A

Mechanical

Construction:
Heavy-duty steel chassis / Fanless

Color:
Computer white (413C)

Dimensions:
410(W) x 105.11(D) x 212.5 mm(H)

Power Supply:
DC 11~32V wide range power input with 60W AC universal power adapter

Environment

Operating temperature:
0~60℃ (32℉~140℉)

Storage temperature:
-20℃~ 80℃ (-68℉~176℉)

Relative humidity:
10~90% (non-condensing)

1.4 Dimensions

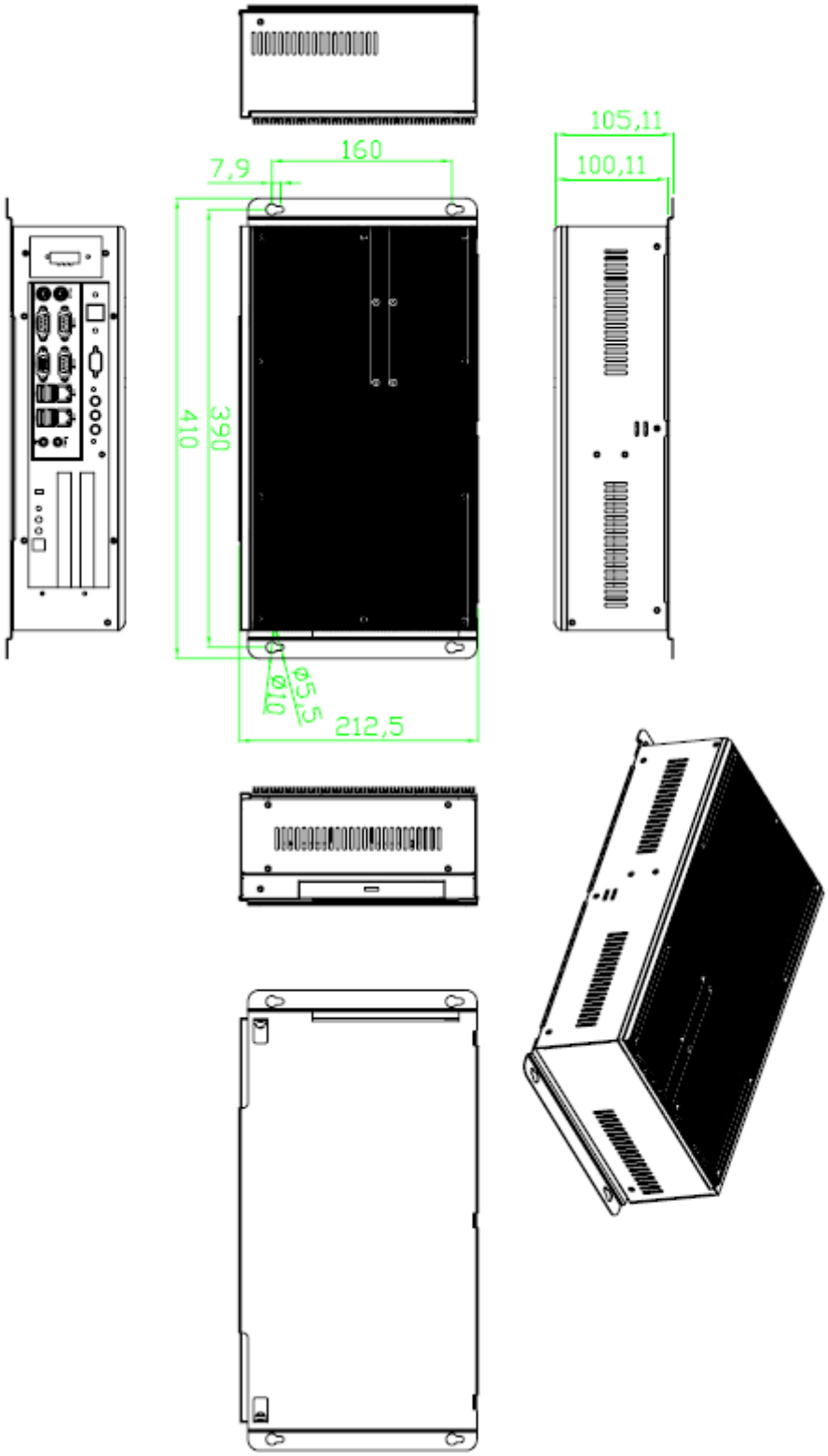
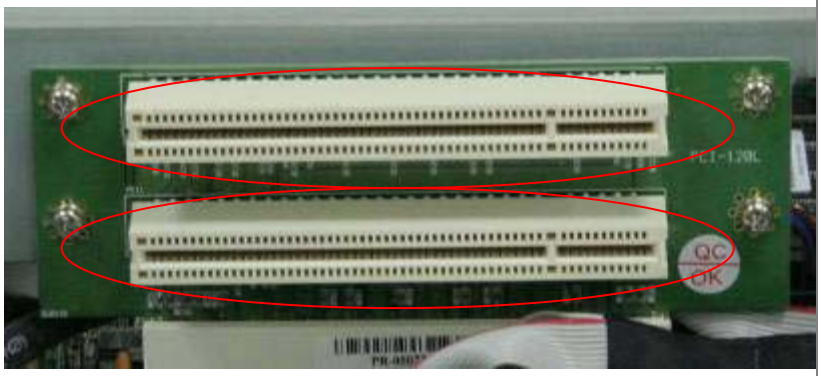
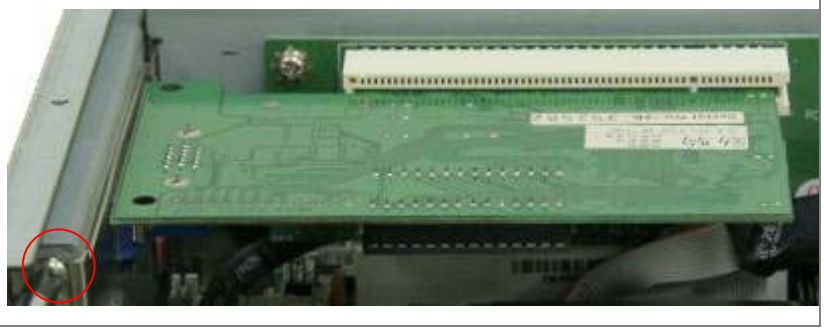
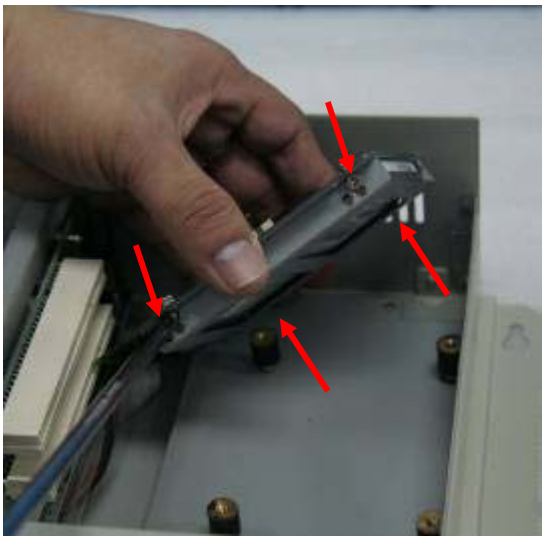
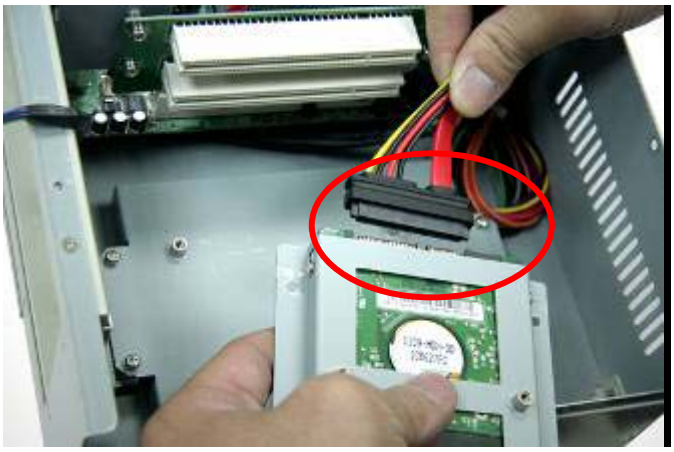


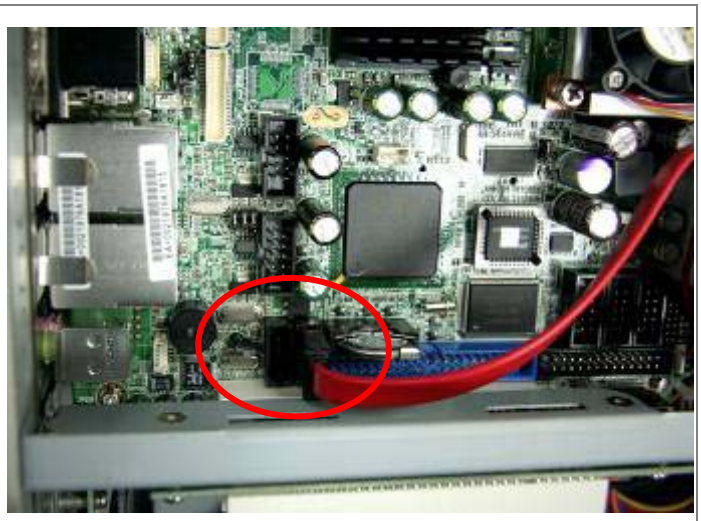
Figure 1.3: Dimensions of the EX-92622A

1.4 Installation of PCI Expansion Add on Cards

Shown in the picture are the two PCI expansion slots for addons. The location of the 2 x PCI expansion slot card is found by the side of the rail. The slots face the CF slot.	 **CD-ROM**
Now slide an addon into the slot of the PCI as shown by the two arrows in the picture, making sure the golden part of the card is evenly aligned with the slot of the PCI. Then carefully push the card deep into the slot.	
Now get the addon secured by tightening the screw as circled in the picture.	

1.5 Installation of HDD

Step 1 Get the HDD screwed to the bracket with the four screws as shown by the arrows in the picture.	
Step 2 Connect the cable to the HDD as shown in the picture, making sure the red stripe of the cable is rightly positioned.	
Step 3 Get the four screws as circled tightened to secure the HDD. As can be obviously seen, the CF Card Board is screwed to the top of the HDD.	

Step 4 Connect the other end of the cable to the SATA slot as shown in the picture.	
Step 5 That's how it should look after it has been installed.	

Chapter 2 Hardware

2.1 Mainboard

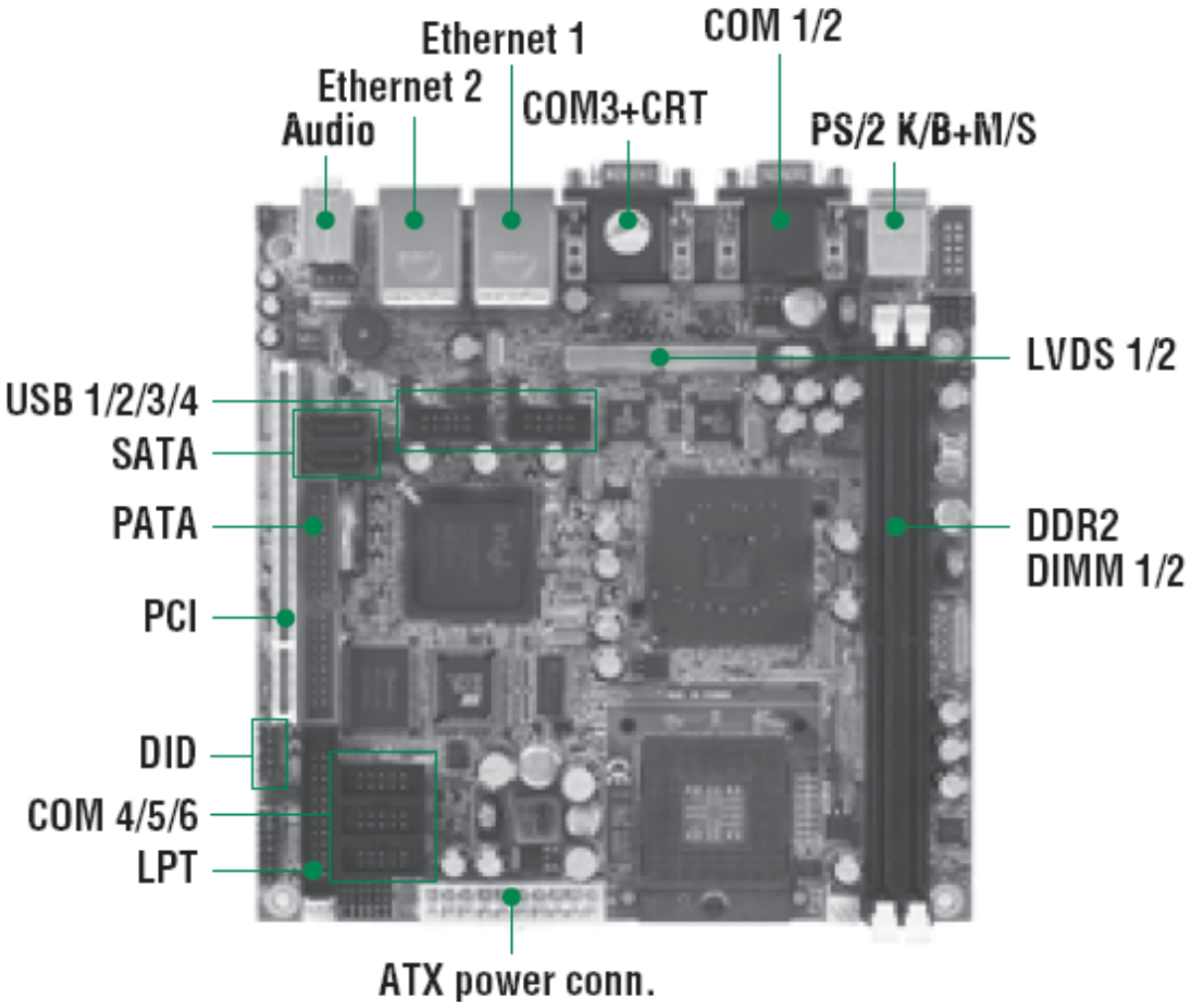


Figure 2.1: Mainboard Overview

2.2 Installing the CPU

The mainboard supports a Socket 479 processor socket for Intel Pentium M or Celeron M processors. The processor socket comes with a screw to secure the processor. As shown in the left picture below, loosen the screw first before inserting the processor. Place the processor into the socket by making sure the notch on the corner of the CPU corresponds with the notch on the inside of the socket. Once the processor slides into the socket, fasten the screw.

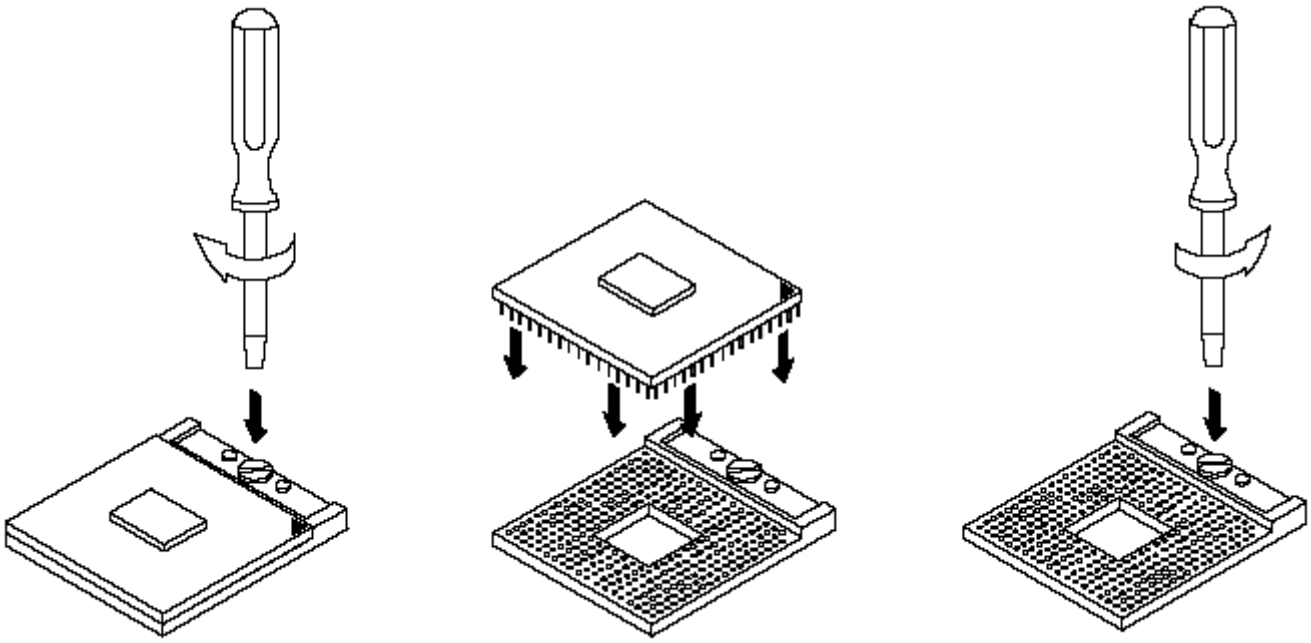


Figure 2.2: Installation of CPU

Note:

Make sure the heat sink and the top surface of the CPU are in total contact to avoid the overheating problem that would cause your system to hang or be unstable.

2.3 Installing the Memory

The Motherboard supports two DDR2 memory socket for a maximum total memory of 2GB in DDR2 memory type.

Installing and Removing Memory Modules

To install the DDR2 modules, locate the memory slot on the board and perform the following steps:
1. Hold the DDR2 module so that the key of the DDR2 module align with those on the memory slot.
2. Gently push the DDR2 module in an upright position until the clips of the slot close to hold the DDR2 module in place when the DDR2 module touches the bottom of the slot.
3. To remove the DDR2 module, press the clips with both hands.

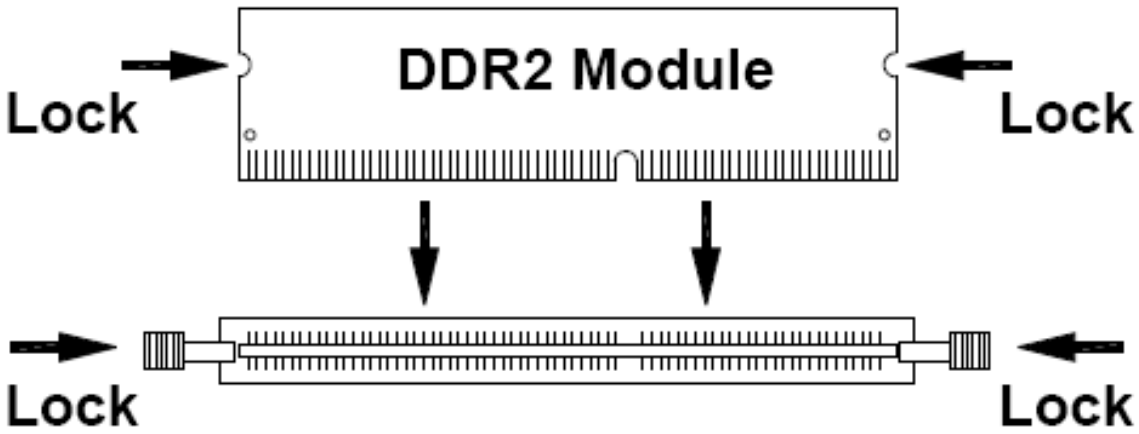


Figure 2.3: Installation of Memory Module

2.4 Installing the Jumpers

Jumpers are used on the mainboards to select various settings and features according to your needs and applications. The following lists the connectors on the mainboard and their respective function.

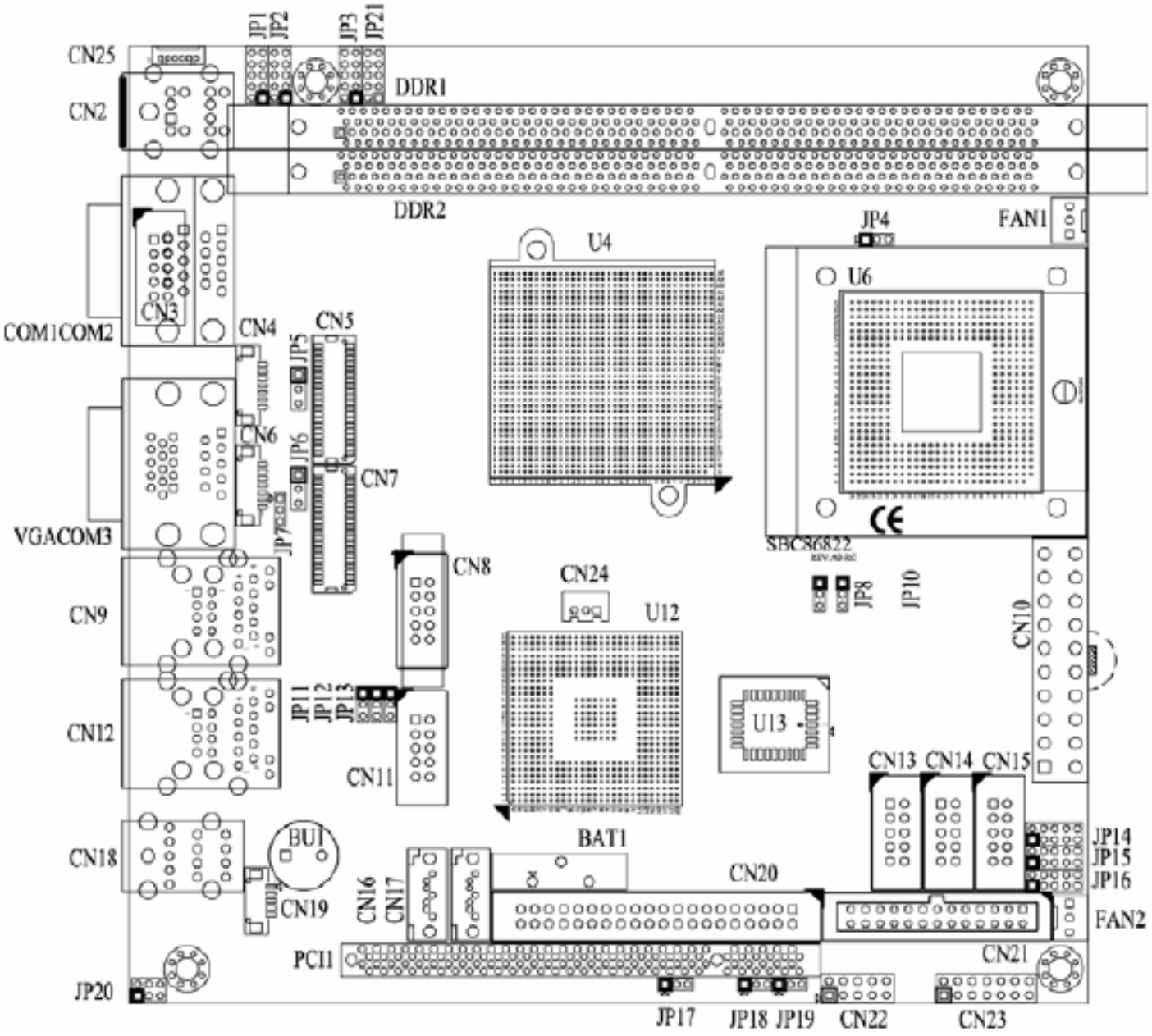
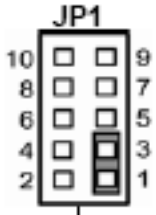
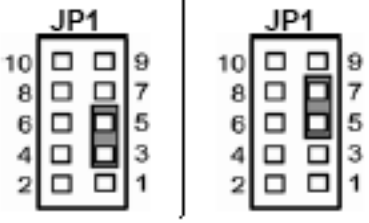
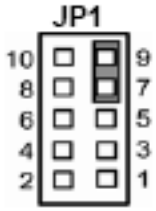
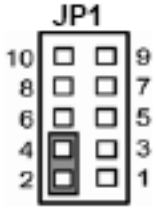
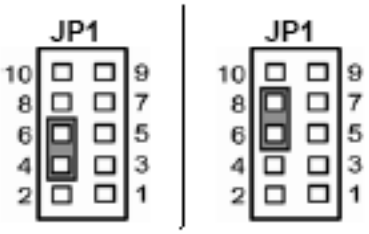
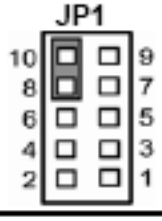


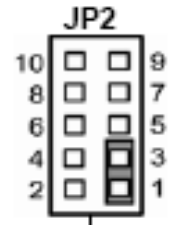
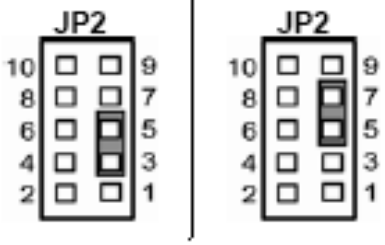
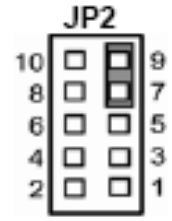
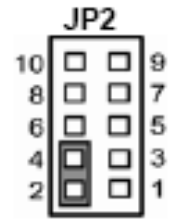
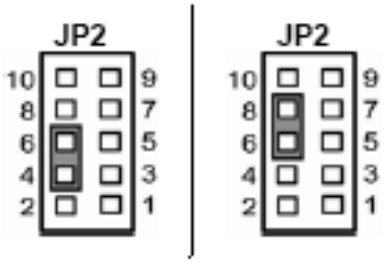
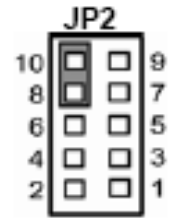
Figure 2.4: Location of Jumpers

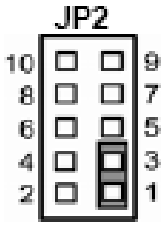
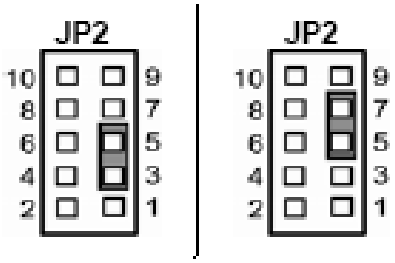
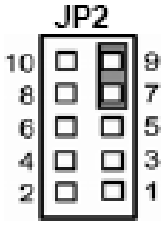
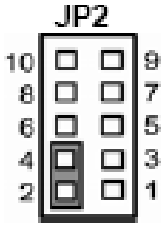
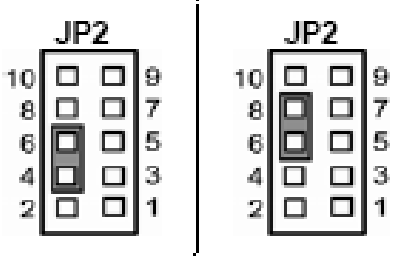
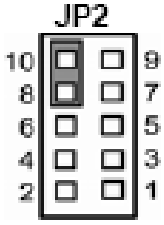
Jumper	Default Setting		Jumper Setting
JP1	COM1 Mode Select	COM1 Pin 1: DCD	Short 7-9
		COM1 Pin 9: RI	Short 8-10
JP2	COM2 Mode Select	COM2 Pin 1: DCD	Short 7-9
		COM2 Pin 9: RI	Short 8-10
JP3	COM3 Mode Select	COM3 Pin 1: DCD	Short 7-9
		COM3 Pin 9: RI	Short 8-10
JP4	CPU Voltage Select : Dothan (1.5V) **<Only Socket Version>**		Short 1-2
JP5	Flat Panel 2 Power Selection: Optional or Default : 3.3V		Short 1-2
JP6	Flat Panel 1 Power Selection: Default: 3.3V		Short 1-2
JP7	USB3(CN9) Voltage select : 5V_SBY		Short 1-2
JP8	CPU Clock Select : Auto **<Only Socket Version>**		Short 1-2
JP10	TPM Function (Optional)		Short 1-2
JP11	USB4(CN12) Voltage select : 5V_SBY		Short 1-2
JP12	USB1(CN8) Voltage select : 5V_SBY		Short 1-2
JP13	USB2(CN11) Voltage select : 5V_SBY		Short 1-2
JP14	COM6 Mode Select	CN15 Pin 1: DCD	Short 7-9
		CN15 Pin 8: RI	Short 8-10
JP15	COM5 Mode Select	CN14 Pin 1: DCD	Short 7-9
		CN14 Pin 8: RI	Short 8-10
JP16	COM4 Mode Select	CN13 Pin 1: DCD	Short 7-9
		CN13 Pin 8: RI	Short 8-10
JP17	Clear CMOS Setting: Normal		Short 1-2
JP18	CompactFlash Select Optional or Default : Slave		Short 1-2
JP19	CompactFlash Voltage Selection Optional or Default : 3.3V		Short 1-2
JP20	Audio Line Out/Speaker Out: Line Out		Short 1-3, 2-4
JP21	CN2, CN25 Keyboard/Mouse application Jumper		Short 1-3, 2-4, 7-9, 8-10

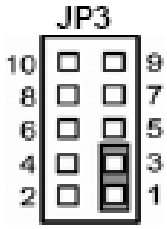
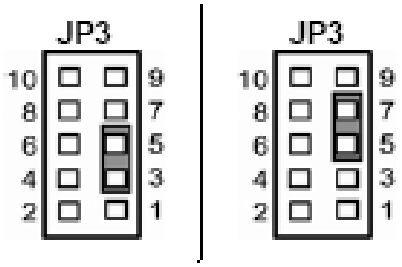
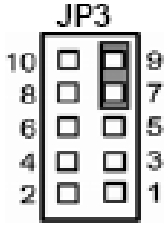
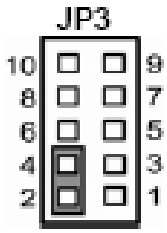
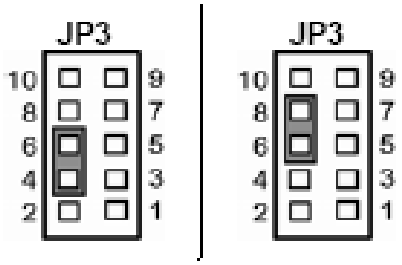
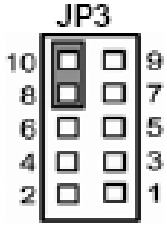
2.4.1 COM1~COM6 Mode Select for Type Jumpers (JP1, JP2, JP3, JP16, JP15, JP14)

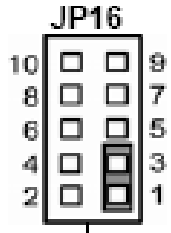
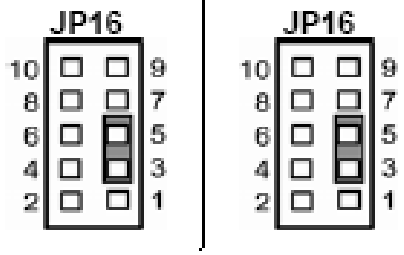
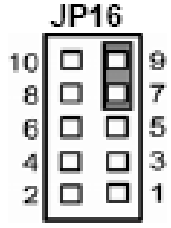
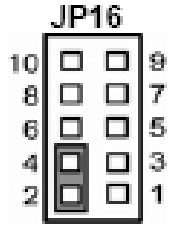
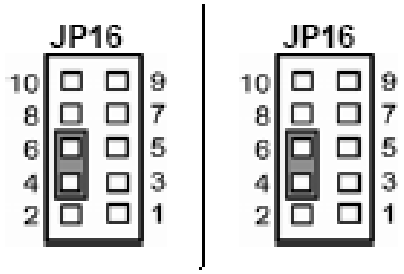
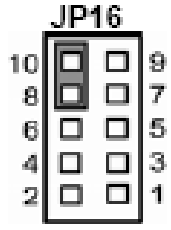
These jumpers select the COM1~COM6 ports' DCD and RI mode.

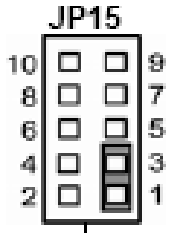
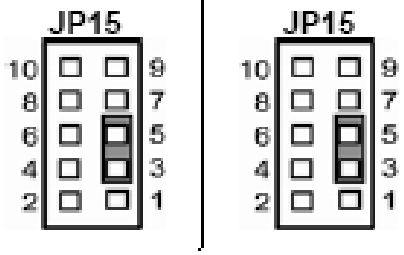
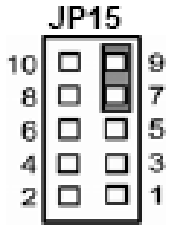
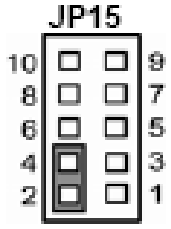
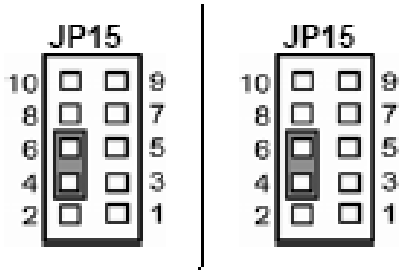
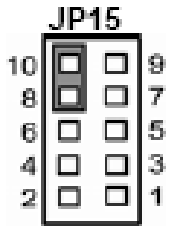
Description	Function	Jumper Setting
COM1	Pin 1=5V	
	Pin 1=12V	
	*Pin 1=DCD	
	Pin 9=5V	
	Pin 9=12V	
	*Pin 9=RI	

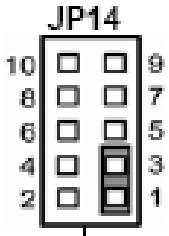
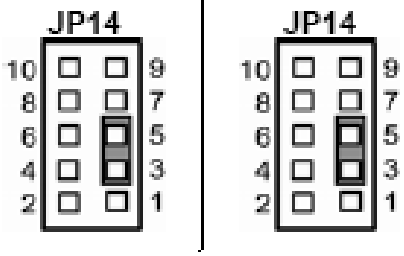
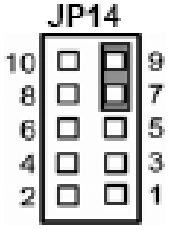
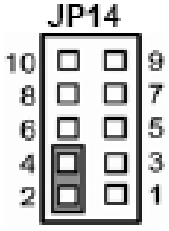
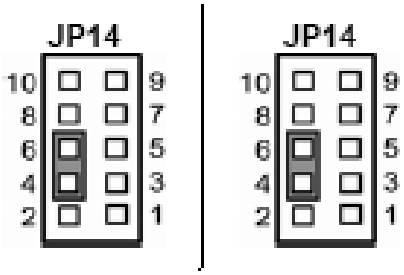
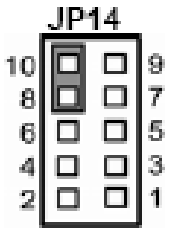
Description	Function	Jumper Setting
CN3(COM2)	Pin 1=5V	
	Pin 1=12V	
	*Pin 1=DCD	
	Pin 8=5V	
	Pin 8=12V	
	*Pin 8=RI	

Description	Function	Jumper Setting
COM2	Pin 1=5V	
	Pin 1=12V	
	*Pin 1=DCD	
	Pin 9=5V	
	Pin 9=12V	
	*Pin 9=RI	

Description	Function	Jumper Setting
COM3	Pin 1=5V	
	Pin 1=12V	
	*Pin 1=DCD	
	Pin 9=5V	
	Pin 9=12V	
	*Pin 9=RI	

Description	Function	Jumper Setting
COM4 (CN13)	Pin 1=5V	
	Pin 1=12V	
	*Pin 1=DCD	
	Pin 8=5V	
	Pin 8=12V	
	*Pin 8=RI	

Description	Function	Jumper Setting
COM5 (CN14)	Pin 1=5V	
	Pin 1=12V	
	*Pin 1=DCD	
	Pin 8=5V	
	Pin 8=12V	
	*Pin 8=RI	

Description	Function	Jumper Setting
COM6 (CN15)	Pin 1=5V	
	Pin 1=12V	
	*Pin 1=DCD	
	Pin 8=5V	
	Pin 8=12V	
	*Pin 8=RI	

2.4.2 CPU Analog voltage Select Jumper (JP4)

Use this jumper to select the CPU analog voltage.

Description	Function	Jumper Setting
CPU Analog Voltage Select	Dothan 1.5V (Default)	
	Banias 1.8V	

2.4.3 Flat Panel Connector Voltage Selection Jumper (JP5, JP6)

The board supports +3.3V or +5V flat panel displays. Configure the jumper JP6 to the appropriate voltage of the flat panel (LVDS1).

Description	Function	Jumper Setting
Flat Panel Connector (LVDS1) Voltage Selection	3.3V (Default)	
	5V	

The board supports +3.3V or +5V flat panel displays. Configure the jumper JP5 to the appropriate voltage of the flat panel (LVDS2).

Description	Function	Jumper Setting
Flat Panel Connector (LVDS2) Voltage Selection	3.3V (Default)	
	5V	

2.4.4 USB Select Jumpers (JP7, JP11, JP12, JP13)

This jumper is to select the voltage for USB interface.

Description	Function	Jumper Setting
USB3 Connector (CN9) Voltage Selection	5V_SBY (Default)	JP7
	5V	JP7

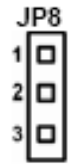
Description	Function	Jumper Setting
USB4 Connector (CN12) Voltage Selection	5V_SBY (Default)	JP11
	5V	JP11

Description	Function	Jumper Setting
USB1 Connector (CN8) Voltage Selection	5V_SBY (Default)	JP12
	5V	JP12

Description	Function	Jumper Setting
USB2 Connector (CN11) Voltage Selection	5V_SBY (Default)	JP13
	5V	JP13

2.4.5 CPU Clock Select Jumper (JP8)

Use this jumper to select the CPU clock.

Description	Function	Jumper Setting
CPU Clock Select	Auto (Default)	
	100 MHz	
	133 MHz	

2.4.6 TPM PP (Physical Presence) Select Jumper (JP10)

Description	Function	Jumper Setting
TPM PP (Physical Presence) Select	Accept both H/W & S/W signals. (Default)	
	Only Accept H/W signals.	

It is an optional jumper, not mounted as a default design.

2.4.7 CMOS Clear Jumper (JP17)

You may need to use this jumper is to clear the CMOS memory if incorrect settings in the Setup Utility.

Description	Function	Jumper Setting
CMOS Clear	Normal (Default)	
	Clear CMOS	

2.4.8 CompactFlash Setting Jumper (JP18) Optional

Use this jumper to set Master/Slave Compact Flash interface.

Description	Function	Jumper Setting
Compact Flash Master/Slave Selection	Master	JP18 1 2 3
	Slave (Default)	JP18 1 2 3

It is an optional jumper, not mounted as a default design.

2.4.9 CompactFlash Power selection Jumper (JP19)

This jumper is to select the voltage for CompactFlash™ interface.

Description	Function	Jumper Setting
CompactFlash™ Power Select	3.3V (Default)	JP19 1 2 3
	5V	JP19 1 2 3

2.4.10 Audio Output Jumper (JP20)

This jumper makes the selection of Audio output.

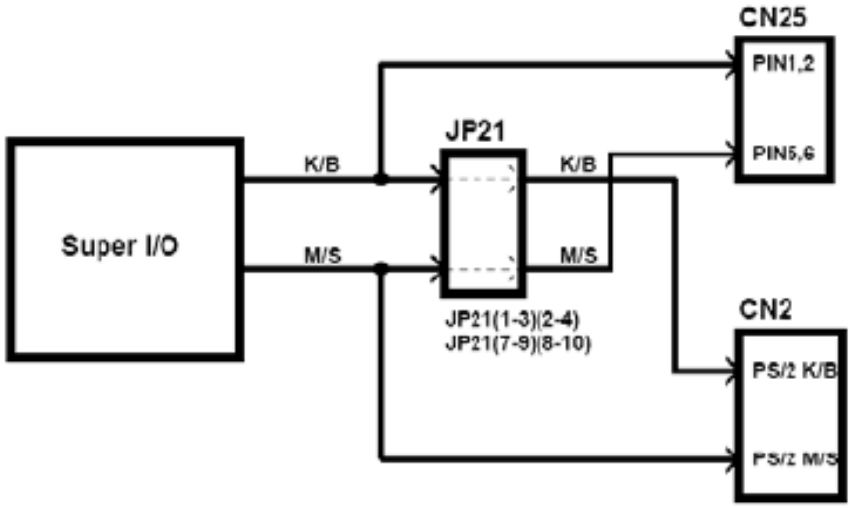
Description	Function	Jumper Setting
Audio Output	Line Out (Default)	JP20 2 4 6 1 3 5
	Speaker Out	JP20 2 4 6 1 3 5

2.4.11 CN2, CN25 Keyboard/Mouse application Jumper (JP21)

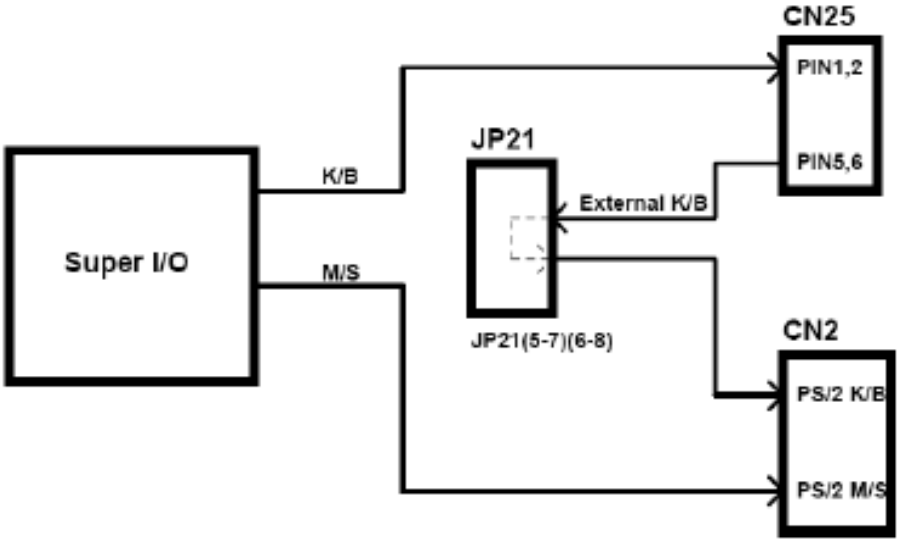
This jumper makes the selection of Keyboard/Mouse application.

Description	Function	Jumper Setting
Keyboard/Mouse Application Select	Application 1 (Default)	JP21 10 9 8 7 6 5 4 3 2 1
	Application 2	JP21 10 9 8 7 6 5 4 3 2 1

Application 1:



Application 2:



2.5 Installing the Connectors

Connectors connect the CPU card with other parts of the system. Loose or improper connection might cause problems. Make sure all connectors are properly and firmly connected. Here is a summary table shows you all connectors on the **SBC86822 Series**.

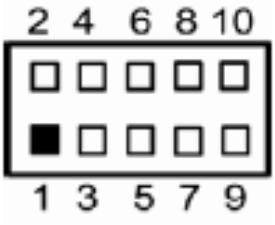
Connectors	Label
Serial Port1 Connector	COM1
PS2 Keyboard/Mouse Connector	CN2
Serial Port2 Connector(COLAY to CN3)	COM2
Inverter Connector(LVDS2)(Optional)	CN4
LVDS2 Connector(Optional)	CN5
Inverter Connector(LVDS1)	CN6
LVDS1 Connector	CN7
Internal USB1 Connector	CN8
LAN1 & Dual USB3 Connector	CN9
ATX Power Connector	CN10
Internal USB2 Connector	CN11
LAN2 & Dual USB4 Connector	CN12
Internal Serial Port4 Connector	CN13
Internal Serial Port5 Connector	CN14
Internal Serial Port6 Connector	CN15
Serial ATA2 Connector	CN16
Serial ATA1 Connector	CN17
Audio Phone Jack Connector	CN18
Internal Audio Connector	CN19
Primary IDE Connector	CN20
Internal Printer Port Connector	CN21
DIO Port Connector	CN22
Flat Panel Bezel Connector	CN23
SMBUS Connector	CN24
Internal Keyboard/Mouse Connector	CN25
Compact Flash Connector(Optional)	CNS1
VGA & Serial Port3 Connector	VGACOM3
DDRII DIMM Connector	DDR1
DDRII DIMM Connector	DDR2
PCI Connector	PCI1
CPU FAN Connector	FAN1
SYSTEM FAN Connector	FAN2

2.5.1 Serial Port Interface Connectors (CN1, CN3, CN13, CN14, CN15)

CN3/CN13/CN14/CN15: COM2/COM4/COM5/COM6 Serial Port 10-pin (Box-header) Connector Pin Assignment list

Pin	Description	Pin	Description
1	Data Carrier Detect (DCD)	2	Data Set Ready (DSR)
3	Receive Data (RXD)	4	Request to Send (RTS)
5	Transmit Data (TXD)	6	Clear to Send (CTS)
7	Data Terminal Ready (DTR)	8	Ring Indicator (RI)
9	Ground (GND)	10	No connector

CN3,
CN13, CN14, CN15

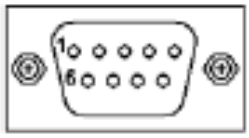


NOTICE 1 *COM2 for 10-pin box-header is optional.*

COM1/COM2/COM3: COM1, COM2 and COM3 are DB-9 connectors is default. Here is the pin assignment list for your reference.

Pin	Description
1	DCD, Data carrier detect
2	RXD, Receive data
3	TXD, Transmit data
4	DTR, Data terminal ready
5	GND, ground
6	DSR, Data set ready
7	RTS, Request to send
8	CTS, Clear to send
9	RI, Ring indicator

COM1, COM2, COM3



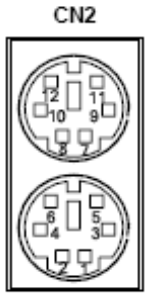
NOTICE 1 *COM2 connectors are COLAY to CN3 connectors.*
COM1/COM2 Default setting is DB-9 connector.

2.5.2 Keyboard and PS/2 Connector (CN2)

The MB provides a keyboard and Mouse inferface with a DIN connector. To install the PS/2 keyboard and mouse, plug the mouse to the upper port (green), and the keyboard to the lower port (Purple)

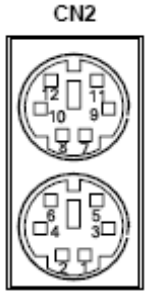
JP21 Application 1:

Pin	Signal	Pin	Signal
1	K/B Data	7	M/S Data
2	NC	8	NC
3	GND	9	GND
4	VCC	10	VCC
5	K/B CLK	11	M/S CLK
6	NC	12	NC



JP21 Application 2:

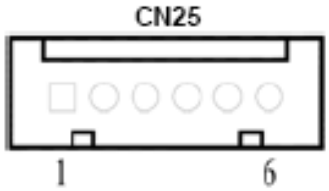
Pin	Signal	Pin	Signal
1	External K/B Data	7	M/S Data
2	NC	8	NC
3	GND	9	GND
4	VCC	10	VCC
5	External K/B CLK	11	M/S CLK
6	NC	12	NC



The 6-pin **CN25** connector is for PS/2 Mouse and PS/2 keyboard connection. The board supports a keyboard and Mouse interface.

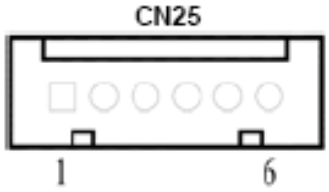
JP21 Application 1:

Pin	Signal
1	K/B Data
2	K/B CLK
3	GND
4	+5V
5	M/S Data
6	M/S CLK



JP21 Application 2:

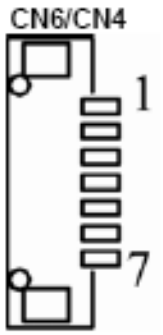
Pin	Signal
1	K/B Data
2	K/B CLK
3	GND
4	+5V
5	External K/B Data
6	External K/B CLK



2.5.3 LVDS1/LVDS2(Optional) Backlight Connectors (CN6, CN4)

The CN6 and CN4 are DF13-7S-1.25C 7-pin connectors for inverter that we strongly recommend you to use the matching DF13-7S-1.25C connector.

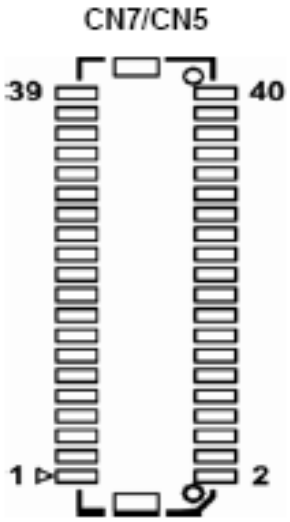
Pin	Signal
1	+12V
2	+12V
3	+5V
4	ENABLE
5	GND
6	GND
7	GND



2.5.4 LVDS1/LVDS2(Optional) Optional flat Panel Connectors (CN5, CN7)

The LVDS connector on the SBC is a 40-pin connector. It is strongly recommended to us the matching JST SHDR-40V-S-B connector.

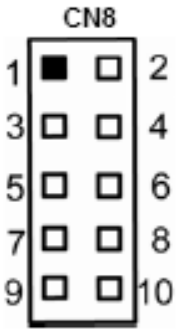
Pin	Signal	Pin	Signal
1	VCCM	2	VCCM
3	VCCM	4	VCCM
5	VCCM	6	VCCM
7	N.C.	8	N.C.
9	GND	10	GND
11	Channel B D3-	12	Channel B D0-
13	Channel B D3+	14	Channel B D0+
15	GND	16	GND
17	Channel B CLK-	18	Channel B D1-
19	Channel B CLK+	20	Channel B D1+
21	GND	22	GND
23	Channel A D0-	24	Channel B D2-
25	Channel A D0+	26	Channel B D2+
27	GND	28	GND
29	Channel A D1-	30	Channel A D3-
31	Channel A D1+	32	Channel A D3+
33	GND	34	GND
35	Channel A D2-	36	Channel A CLK-
37	Channel A D2+	38	Channel A CLK+
39	GND	40	GND



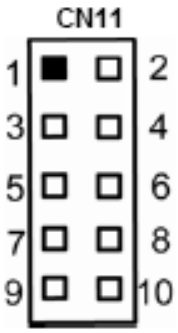
2.5.5 USB1/USB2 connectors (CN8, CN11)

These Universal Serial Bus (USB) connectors on this board are for installing versatile USB interface peripherals. These are 10-pin standard USB connectors.

Pin	Signal	Pin	Signal
1	+5V	2	+5V
3	USB D0-	4	USB D1-
5	USB D0+	6	USB D1+
7	Ground (GND)	8	Ground (GND)
9	Ground (GND)	10	Ground (GND)



Pin	Signal	Pin	Signal
1	+5V	2	+5V
3	USB D2-	4	USB D3-
5	USB D2+	6	USB D3+
7	Ground (GND)	8	Ground (GND)
9	Ground (GND)	10	Ground (GND)



2.5.6 Ethernet with USB Connectors (LAN1, LAN2)

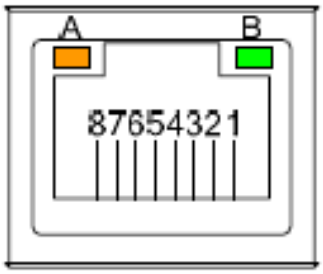
The RJ-45 connector is for Ethernet. To connect the board to a 100/10 Base-T hub, just plug one end of the cable into **CN9A** and **CN12A**, and connect the other end (phone jack) to a 1000/100/10-Base-T hub.

The lower double-deck USB Connector (**CN9B, CN12B**) supports USB 2.0 compliant (480Mbps) that can be connected to any USB peripherals, such as keyboard, mouse, scanner.

Please refer to the pin assignment list next page.

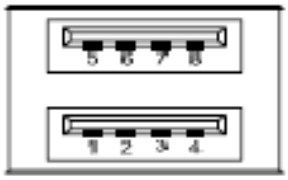
Pin	Signal
1	MDI0+
2	MDI0-
3	MDI1+
4	MDI1-
5	MDI2+
6	MDI2-
7	MDI3+
8	MDI3-
A	Active LED (Yellow)
B	100 LAN LED (Green)/ 1000 LAN LED (Orange)

CN9A/CN12A



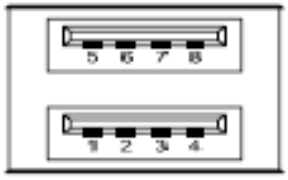
Pin	Signal
1	+5V
2	USB D4-
3	USB D4+
4	GND
5	+5V
6	USB D5-
7	USB D5+
8	GND

CN9B



Pin	Signal
1	+5V
2	USB D6-
3	USB D6+
4	GND
5	+5V
6	USB D7-
7	USB D7+
8	GND

CN12B



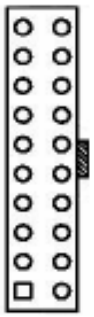
2.5.7 ATX Power Connector (CN10)

Steady and sufficient power can be supplied to all components on the board by connecting the power connector. Please make sure all components and devices are properly installed before connecting the power connector. Align the power connector with its proper location on the board, and connect it tightly.

If you use a 20-pin ATX power supply, please remove the small cover from the power connector before plugging in the power cord; otherwise, please do not remove it.

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	PW_OK	18	-5V
9	5V_SB	19	5V
10	12V	20	5V

CN10



2.5.8 SATA Connectors (CN16, CN17)

These SATA connectors are for high-speed SATA interface ports and they can be connected to hard disk devices.

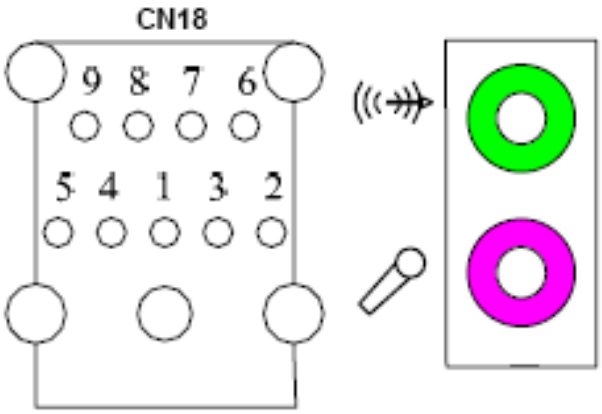
Pin	Signal
1	GND
2	SATA_TX+
3	SATA_TX-
4	GND
5	SATA_RX-
6	SATA_RX+

CN16/CN17

2.5.9 SATA Connectors (CN16, CN17)

After install onboard audio driver, you may connect speaker to Line Out jack, microphone to MIC in jack.

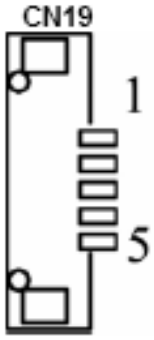
Pin	Signal
1	Ground (GND)
2	VREFOUT
3	N.C
4	Ground (GND)
5	MIC_IN
6	LINE_OUT_L
7	LINE_OUT_L1
8	LINE_OUT_R1
9	LINE_OUT_R



2.5.10 Internal Audio connector (CN19)

The **SBC86822** supports internal audio interface. **CN19** is a 5pin-header connector commonly used for the audio. After installing onboard audio driver, you may connect speaker to Line Out jack, and microphone to MIC In jack.

Pin	Signal
1	AUDIO_OUT_L
2	GND
3	AUDIO_OUT_R
4	GND
5	MIC_IN

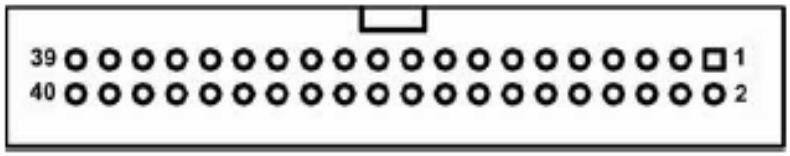


2.5.11 Enhanced IDE Interface Connector (CN20)

There are three built-in IDE channels, one parallel ATA-100 and two serial ATA-150, which support up to four IDE devices. **CN20** is a 40-pin IDE interface connector for standard 3.5" IDE device.

Pin	Signal	Pin	Signal	Pin	Signal
1	Reset #	2	GND	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	GND	20	No connector	21	No connector
22	GND	23	IOW #	24	GND
25	IOR #	26	GND	27	IOCHRDY
28	No connector	29	No connector	30	GND-Default
31	Interrupt	32	No connector	33	SA1
34	No connector	35	SA0	36	SA2
37	HDC CS0 #	38	HDC CSI #	39	HDD Active #
40	GND				

CN20



2.5.12 Parallel Port Interface Connector (CN21)

The board has one one 26-pin header connector **CN21** for onboard parallel port. The onboard PRN is a multi-mode parallel port that supports:

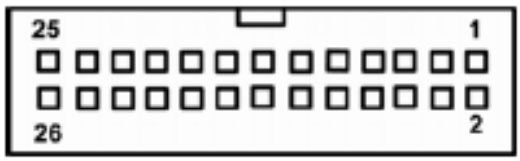
1. **Standard mode:**
   IBM PC/XT, PC/AT and PS/2™ compatible with bi-directional parallel port
2. **Enhanced mode:**
   Enhance parallel port (EPP) compatible with EPP 1.7 and EPP 1.9 (IEEE 1284 compliant)
3. **High speed mode:**
   Microsoft and Hewlett Packard extended capabilities port (ECP) IEEE 1284 compliant

You can enter the BIOS CMOS Setup Utility to configure the address selection of onboard parallel port, CN21 (378H) or Disabled.

CN21: Parallel Port (Box Header) Connector Pin Assignment

Pin	Signal	Pin	Signal
1	Strobe#	2	Auto Form Feed#
3	Data 0	4	Error#
5	Data 1	6	Initialize#
7	Data 2	8	Printer Select In#
9	Data 3	10	GND
11	Data 4	12	GND
13	Data 5	14	GND
15	Data 6	16	GND
17	Data 7	18	GND
19	Acknowledge#	20	GND
21	Busy	22	GND
23	Paper Empty#	24	GND
25	Printer Select	26	NC

CN21

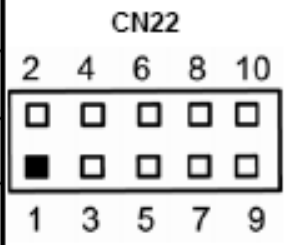


2.5.13 Digital I/O Port (DIO) Connector (CN22)

The board is equipped an 8-channel digital I/O connector **CN22** that meets requirements for a system customary automation control. The digital I/O can be configured to control cash drawers and sense warning signals from an Uninterrupted Power System (UPS), or perform store security control. The digital I/O is controlled via software programming.

Please refer to next page for the detailed pin assignment list.

Pin	Signal	Pin	Signal
1	Digital Input 0	2	Digital Output 0
3	Digital Input 1	4	Digital Output 1
5	Digital Input 2	6	Digital Output 2
7	Digital Input 3	8	Digital Output 3
9	Ground (GND)	10	Ground (GND)



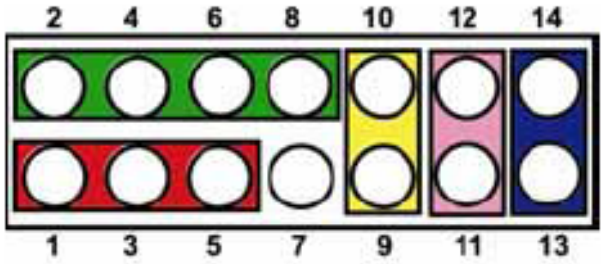
Digital Input Address : 402A

Digital Output				Digital Input			
Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
X	X	DI3	DI2	DI1	DI0	X	X

Digital Output :

Digital Output				Digital Input			
Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
X	X	X	X	DO3	DO2	DO1	DO0

2.5.14 Flat Panel Bezel Connector(CN23)



- **Power LED**

  This 3-pin connector denoted as Pin 1 and Pin 5 connects the system power LED indicator to such a switch on the case. Pin 1 is assigned as +, and Pin 5 as -. The Power LED lights up when the system is powered ON.

- **External Speaker and Internal Buzzer Connector**

  Pin 2, 4, 6 and 8 can be connected to the case-mounted speaker unit or internal buzzer. While connecting the CPU card to an internal buzzer, please short pins 2-4; while connecting to an external speaker, you need to set pins 2-4 to Open and connect the speaker cable to pin 8 (+) and pin 2 (-).

- **ATX Power On/Off Button**

  This 2-pin connector denoted as Pin 9 and 10 connects the front panel's ATX power button to the CPU card, which allows users to control ATX power supply to be power on/off.

- **System Reset Switch**
  Pin 11 and 12 can be connected to the case-mounted reset switch that reboots your computer instead of turning OFF the power switch. It is a better way to reboot your system for a longer life of the system's power supply.

- **HDD Activity LED**

  This connection is linked to hard drive activity LED on the control panel. LED flashes when HDD is being accessed. Pin 13 and 14 connect the hard disk drive to the front panel HDD LED, Pin 13 assigned as -, and Pin 14 as +.

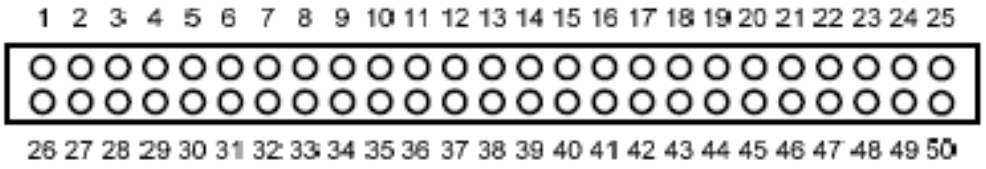
2.5.15 CompactFlash Socket (CNS1)

The board is equipped with a CompactFlash™ disk type-II socket on the solder side that supports the IDE interface CompactFlash™ disk card with DMA mode supported. The socket is especially designed to avoid any incorrect installation of the CompactFlash™ disk card. When installing or removing the CompactFlash™ disk card, please make sure that the system power is off. The CompactFlash™ disk card is defaulted as the C: or D: disk drive in your PC system.

Pin	Signal	Pin	Signal
1	GND	26	CD1-
2	Data 3	27	Data 11
3	Data 4	28	Data 12

Pin	Signal	Pin	Signal
4	Data 5	29	Data 13
5	Data 6	30	Data 14
6	Data 7	31	Data 15
7	CS0#	32	CS1#
8	Address 10	33	VS1#
9	ATASEL	34	IORD#
10	Address 9	35	IOWR#
11	Address 8	36	WE#
12	Address 7	37	INTR
13	VCC	38	VCC
14	Address 6	39	CSEL#
15	Address 5	40	VS2#
16	Address 4	41	RESET#
17	Address 3	42	IORDY#
18	Address 2	43	DMAREQ
19	Address 1	44	DMAACK-
20	Address 0	45	DASP#
21	Data 0	46	PDIAG#
22	Data 1	47	Data 8
23	Data 2	48	Data 9
24	IOCS16#	49	Data 10
25	CD2#	50	GND

CNS1

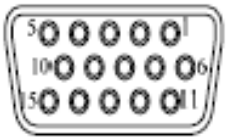


2.5.16 VGA Connector (VCOM3B)

VCOM3B is a standard 15-pin DB15 connector commonly for the CRT VGA display.

Pin	Signal
1	Red
2	Green
3	Blue
4	N.C
5	Ground (GND)
6	AnalogGround（AGND）
7	AnalogGround（AGND）
8	AnalogGround（AGND）
9	N.C
10	Ground (GND)
11	N.C
12	DDC DATA
13	Horizontal Sync
14	Vertical Sync
15	DDC CLK

VCOM3B

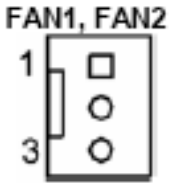


2.5.17 CPU and System Fan Connectors (FAN1, FAN2)

FAN1 and FAN2 are CPU and System FAN Connectors. Pentium microprocessors require a fan for heat dispensing. The fan connector is to supply fan power.

FAN1/FAN2: 3PIN FAN Connector

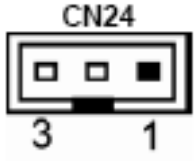
Pin	Signal
1	Ground
2	+12V
3	Rotation Detection



2.5.18 SMBUS connectors (CN24)

Connector CN24 is for SMBUS interface support.

Pin	Signal
1	CLOCK
2	DATA
3	GND



Chapter 3 BIOS Setup

The Phoenix-Award BIOS provides users with a built-in Setup program to modify basic system configuration. All configured parameters are stored in a battery-backed-up RAM (CMOS RAM) to save the Setup information whenever the power is turned off.

3.1 Entering Setup

There are two ways to enter the Setup program. You may either turn ON the computer and press <Del> immediately, or press the <Del> and/or <Ctrl>, <Alt>, and <Esc> keys simultaneously when the following message appears at the bottom of the screen during POST (Power on Self Test).

TO ENTER SETUP PRESS DEL KEY

If the message disappears before you respond and you still want to enter Setup, please restart the system to try it again. Turning the system power OFF and ON, pressing the “RESET” button on the system case or simultaneously pressing <Ctrl>, <Alt>, and <Del> keys can restart the system. If you do not press keys at the right time and the system doesn’t boot, an error message will pop out to prompt you the following information:

PRESS <F1> TO CONTINUE, <CTRL-ALT-ESC> OR <DEL> TO ENTER SETUP

3.2 Control Keys

Up arrow	Move cursor to the previous item
Down arrow	Move cursor to the next item
Left arrow	Move cursor to the item on the left hand
Right arrow	Move to the item in the right hand
Esc key	Main Menu -- Quit and delete changes into CMOS Status Page Setup Menu and Option Page Setup Menu -- Exit current page and return to Main Menu
PgUp/“+” key	Increase the numeric value or make changes
PgDn/“−“ key	Decrease the numeric value or make changes
F1 key	General help, only for Status Page Setup Menu and Option Page Setup Menu
F2 key	Reserved
F3 key	Reserved
F4 key	Reserved
F5 key	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu

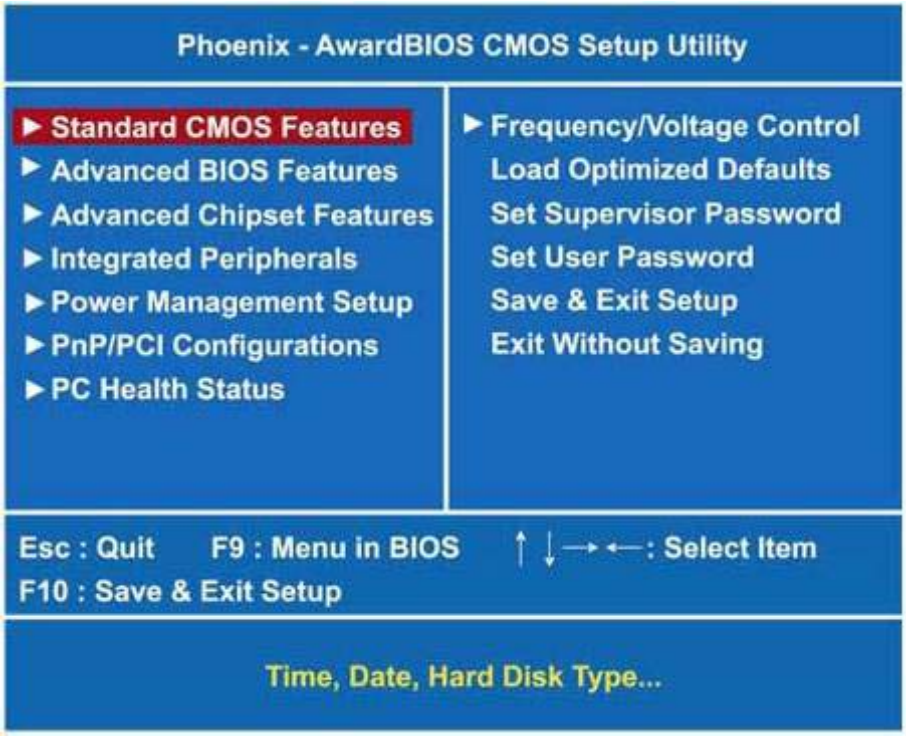
F6 key	Reserved
F7 key	Load the Setup default, only for Option Page Setup Menu
F8 key	Reserved
F9 key	Reserved
F10 key	Save all the CMOS changes, only for Main Menu

3.3 Getting Help

- **Main Menu** The online description of the highlighted setup function is displayed at the bottom of the screen.
- **Status Page Setup Menu/Option Page Setup Menu** Press <F1> to pop out a small Help window that provides the description of using appropriate keys and possible selections for highlighted items. Press <F1> or <Esc> to exit the Help Window.

3.4 The Main Menu

Once you enter the Award BIOS CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from ten setup functions and two exit choices. Use the arrow keys to select the setup function you intend to configure then press <Enter> to accept or enter its sub-menu.



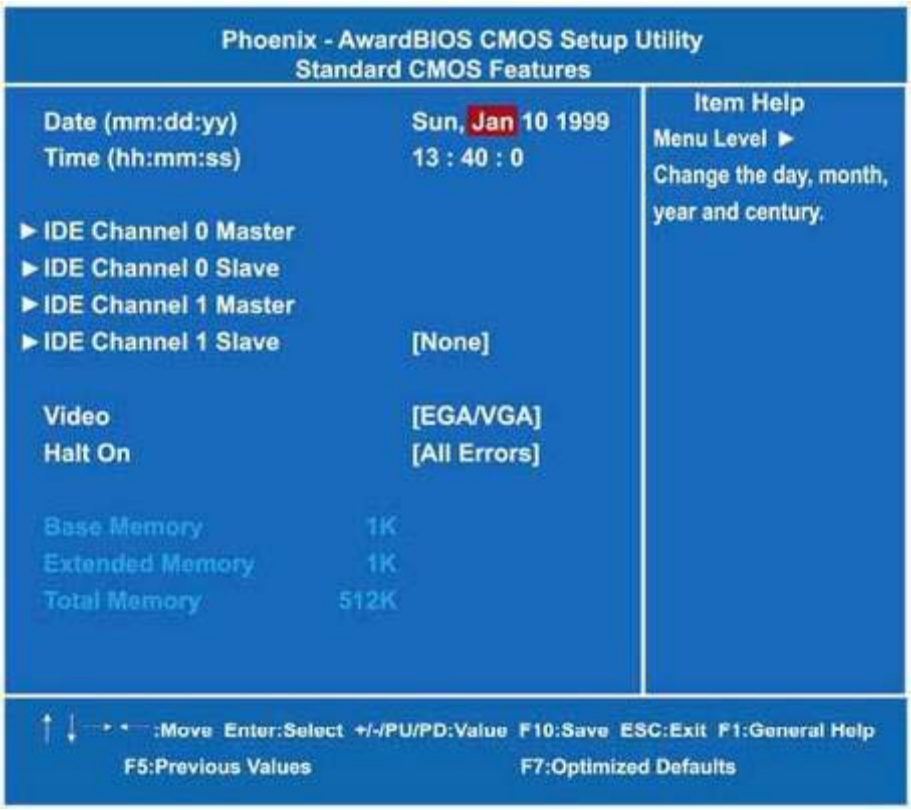
NOTE *If you find that your computer cannot boot after making and saving system changes with Setup, the Award*

BIOS, via its built-in override feature, resets your system to the CMOS default settings.

We strongly recommend that you avoid making any changes to the chipset defaults. These defaults have been carefully chosen by both Award and your system manufacturer to provide the absolute maximum performance and reliability.

3.5 Standard CMOS Setup Menu

The items in Standard CMOS Setup Menu are divided into 10 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.



- **Date** The date format is <day>, <date> <month> <year>. Press <F3> to show the calendar.

day	The day of week, from Sun to Sat, determined by the BIOS, is read only
date	The date, from 1 to 31 (or the maximum allowed in the month), can key in the numerical / function key
month	The month, Jan through Dec.
year	The year, depends on the year of BIOS

- **Time** The time format is <hour> <minute> <second> accepting either functions key or numerical key. The time is calculated based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00.
- **DE Channel 0/1 Master / IDE Channel 0/1 Slave**

The categories identify the types of one channel that have been installed in the computer. There

are 45 predefined types and 2 users definable types are for Enhanced IDE BIOS. Type 1 to Type 45 is predefined. Type User is user-definable. Press <PgUp>/<+> or <PgDn>/<−> to select a numbered hard disk type or type the number and press <Enter>. Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information within this category. If your hard disk drive type does not match or is not listed, you can use Type User to define your own drive type manually. If you select Type User, related information is asked to be entered to the following items. Enter the information directly from the keyboard and press <Enter>. This information should be provided in the documentation from your hard disk vendor or the system manufacturer. If the controller of HDD interface is ESDI, select "Type 1". If the controller of HDD interface is SCSI, select "None". If the controller of HDD interface is CD-ROM, select "None".

CYLS.	number of cylinders	**LANDZONE**	landing zone
HEADS	number of heads	**SECTORS**	number of sectors
PRECOMP	write precom	**MODE**	HDD access mode

If there is no hard disk drive installed, select NONE and press <Enter>.

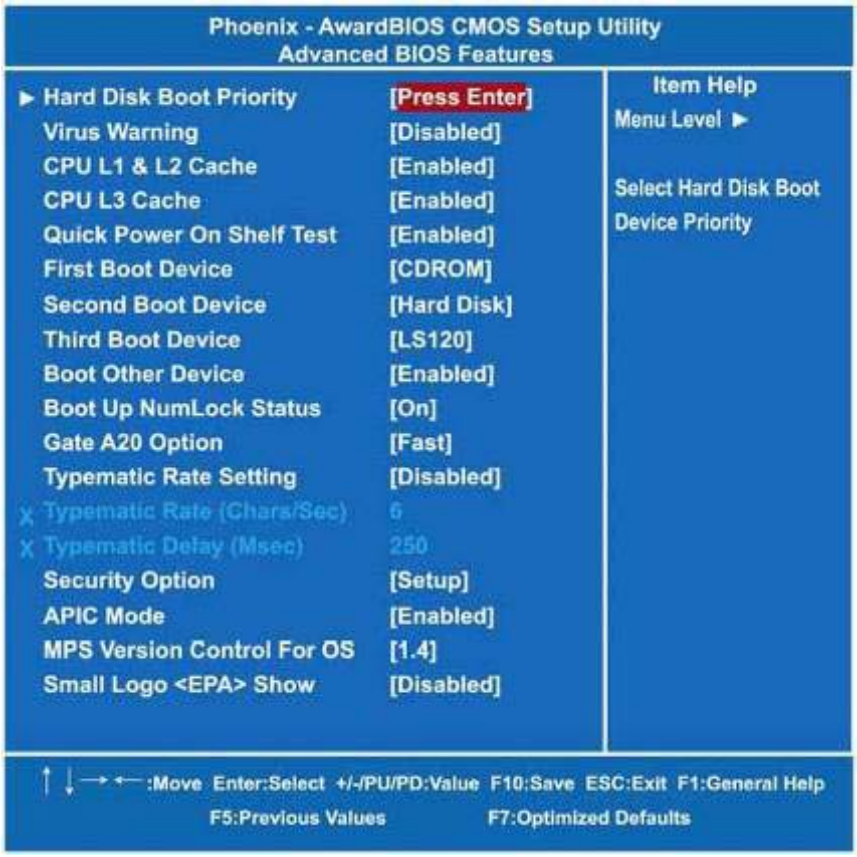
- **Video**
  Select the display adapter type for your system.
- **Halt On** This field determines whether the system will halt if an error is detected during power up.

No errors	The system boot will halt on any error detected. (default)
All errors	Whenever the BIOS detect a non-fatal error, the system will stop and you will be prompted.
All, But Keyboard	The system boot will not stop for a keyboard error; it will stop for all other errors.

Press <Esc> to return to the Main Menu page.

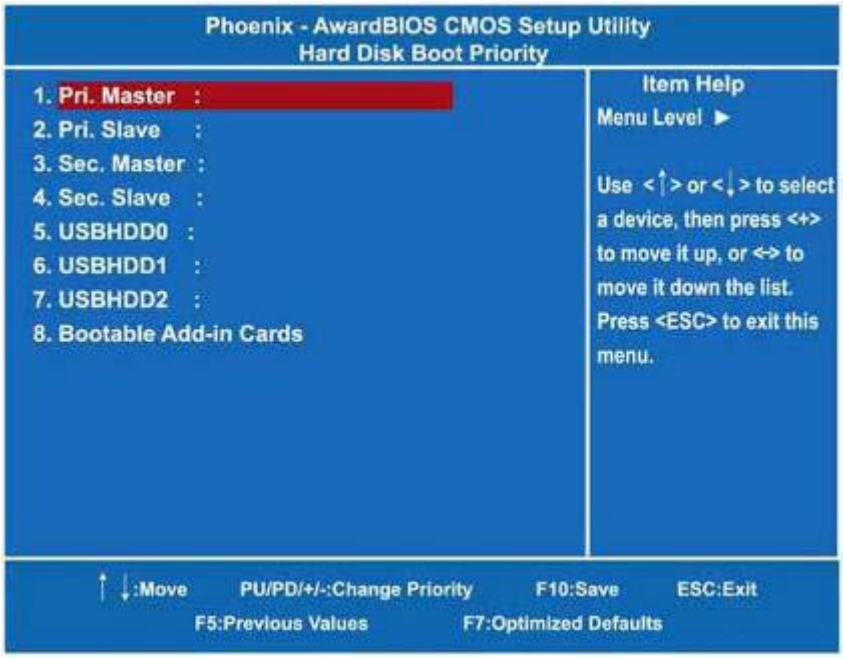
3.6 Advanced BIOS Features

This section allows you to configure and improve your system and allows you to set up some system features according to your preference.



- **Hard Disk Boot Priority**

Scroll to this item and press <Enter> to view the sub menu to decide the disk boot priority.



Press <Esc> to return to the Advanced BIOS Features page.

- **Virus Warning** This option flashes on the screen. During and after the system boot up, any attempt to write to the boot sector or partition table of the hard disk drive will halt the system with the following message. You can run an anti-virus program to locate the problem. The default

setting is “Disabled”.

! WARNING !

Disk boot sector is to be modified

Type “Y” to accept write or “N” to abort write

Award Software, Inc.

Enabled	It automatically activates while the system boots up and a warning message appears for an attempt to access the boot sector or hard disk partition table.
Disabled	No warning message will appear for attempts to access the boot sector or hard disk partition table.

It automatically activates while the system boots up and a warning message appears for an attempt to access the boot sector or hard disk partition table. No warning message will appear for attempts to access the boot sector or hard disk partition table.

NOTE *This function is only available with DOS and other operating systems that do not trap INT13.*

- **CPU L1 & L2 Cache**
  These two options speed up memory access. However, it depends on the CPU/chipset design. The default setting is *"Enabled"*. CPUs with no built-in internal cache will not provide the "CPU Internal Cache" item on the menu.

Enabled	Enable cache
Disabled	Disable cache

- **CPU L3 Cache**
  Use this item to enable L3 cache only for the CPUs with such a function.

- **Quick Power On Self Test**
  This option speeds up Power on Self Test (POST) after you turn on the system power. If set as Enabled, BIOS will shorten or skip some check items during POST. The default setting is *"Enabled"*.

Enabled	Enable Quick POST
Disabled	Normal POST

- **First/Second/Third Boot Device**
  These items allow the selection of the 1st, 2nd, and 3rd devices that the system will search for during its boot-up sequence. The wide range of selection includes *Floppy*, *LS120*, *ZIP100*, *HDD0~3*, *SCSI*, and *CDROM*.

- **Boot Other Device**
  This item allows the user to enable/disable the boot device not listed on the First/Second/Third boot devices option above. The default setting is *"Enabled"*.

- **Boot Up NumLock Status**
  Selects power on state for NumLock. The default value is *"On"*.

- **Gate A20 Option**
  The default value is *"Fast"*.

Normal	The A20 signal is controlled by keyboard controller or chipset hardware.
Fast	Default: Fast. The A20 signal is controlled by Port 92 or chipset specific method.

- **Typematic Rate Setting** This determines the typematic rate of the keyboard. The default value is *"Disabled"*.

Enabled	Enable typematic rate and typematic delay programming
Disabled	Disable typematic rate and typematic delay programming. The system BIOS will use default value of these 2 items and the default is controlled by keyboard.

- **Typematic Rate (Chars/Sec**)
  This option refers to the number of characters the keyboard can type per second. The default value is *"6"*.

6	6 characters per second
8	8 characters per second
10	10 characters per second
12	12 characters per second
15	15 characters per second
20	20 characters per second
24	24 characters per second
30	30 characters per second

- **Typematic Delay (Msec**)
  This option sets the display time interval from the first to the second character when holding a key. The default value is *"250"*.

250	250 msec
500	500 msec
750	750 msec
1000	1000 msec

- **Security Option** This item allows you to limit access to the system and Setup, or just to Setup. The default value is *"Setup"*.

System	The system will not boot and access to Setup will be denied if the incorrect password is entered at the prompt.
Setup	The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt.

NOTE *To disable security, select PASSWORD SETTING at Main Menu and then you will be asked to enter password. Do not type anything, just press <Enter> and it will disable security. Once the security is disabled, the system will boot and you can enter Setup freely.*

- APIC Mode

Use this item to enable or disable APIC (Advanced Programmable Interrupt Controller) mode that provides symmetric multi-processing (SMP) for systems.

- MPS Version Control For OS

This item specifies the version of the Multiprocessor Specification (MPS). Version 1.4 has extended configuration tables to improve support for multiple PCI bus configurations and provide future expandability.

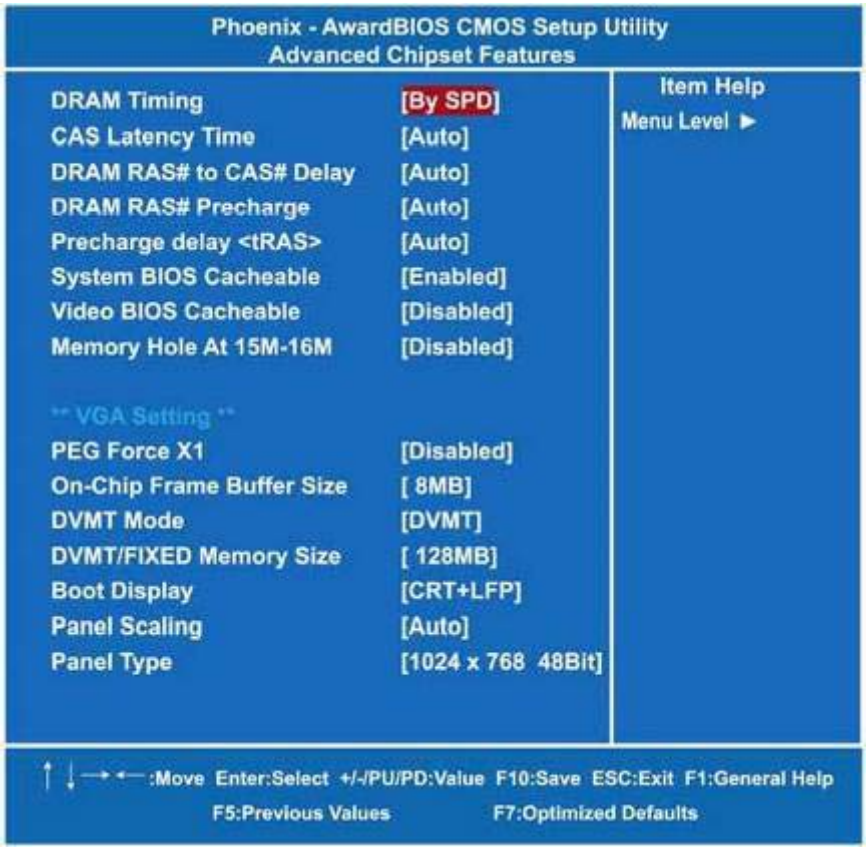
- Small Logo (EPA) Show

If enabled, the EPA logo will appear during system booting up; if disabled, the EPA logo will not appear.

Press <Esc> to return to the Main Menu page.

3.7 Advanced Chipset Features

Since the features in this section are related to the chipset on the CPU board and are completely optimized, you are not recommended to change the default settings in this setup table unless you are well oriented with the chipset features.



- **DRAM Timing Selectable**

  Use this item to increase the timing of the memory. This is related to the cooling of memory.

- **CAS Latency Time** You can select CAS latency time in HCLKs 2, 3, or Auto. The board designer should set the values in this field, depending on the DRAM installed. Do not change the values in this field unless you change specifications of the installed DRAM or the installed CPU.

- **DRAM RAS# to CAS# Delay**
  When DRAM is refreshed, both rows and columns are addressed separately.
  This field lets you insert a timing delay between the
  CAS and RAS strobe signals, used when DRAM is written to, read from, or refreshed.

- **DRAM RAS# Precharge** The precharge time is the number of cycles it takes for the RAS to accumulate its charge before DRAM refresh. If insufficient time is allowed, refresh may be incomplete and the DRAM may fail to retain data.

- **Precharge Delay <tRAS>**
- The precharge time is the number of cycles it takes for DRAM to accumulate its charge before refresh.
- **System BIOS Cacheable** Selecting Enabled allows caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result. The default value is *"Disabled"*.

- **Video BIOS Cacheable** This item allows you to change the Video BIOS location from ROM to RAM. Video Shadow will increase the video speed.

- **Memory Hole At 15M-16M** Enabling this feature reserves 15MB to 16MB memory address space

to ISA expansion cards that specifically require this setting. This makes the memory from 15MB and up unavailable to the system. Expansion cards can only access memory up to 16MB.

***** VGA Setting *****

- **PEG Force X1**
  This BIOS feature allows you to convert a PCI Express X16 slot into a PCI Express X1 slot. When this item is enabled, the PCI Express X16 slot will be forced to run in the PCI Express X1 mode. When this item is disabled, the PCI Express X16 slot will be allowed to run its normal PCI Express X16 mode.

- **On-Chip Frame Buffer Size**
  Use this item to set the VGA frame buffer size.

- **DVMT Mode**
  DVMT (Dynamic Video Memory Technology) helps you select the video mode.

- **DVMT/Fixed Memory Size** DVMT (Dynamic Video Memory Technology) allows you to select a maximum size of dynamic amount usage of the video memory. The system would configure the video memory dependent on your application.

- **Boot Display**
  This item is to select Display Device that the screen will be shown.

- **Panel Scaling** This item shows the setting of panel scaling and operates the scaling function that the panel output can fit the screen resolution connected to the output port.

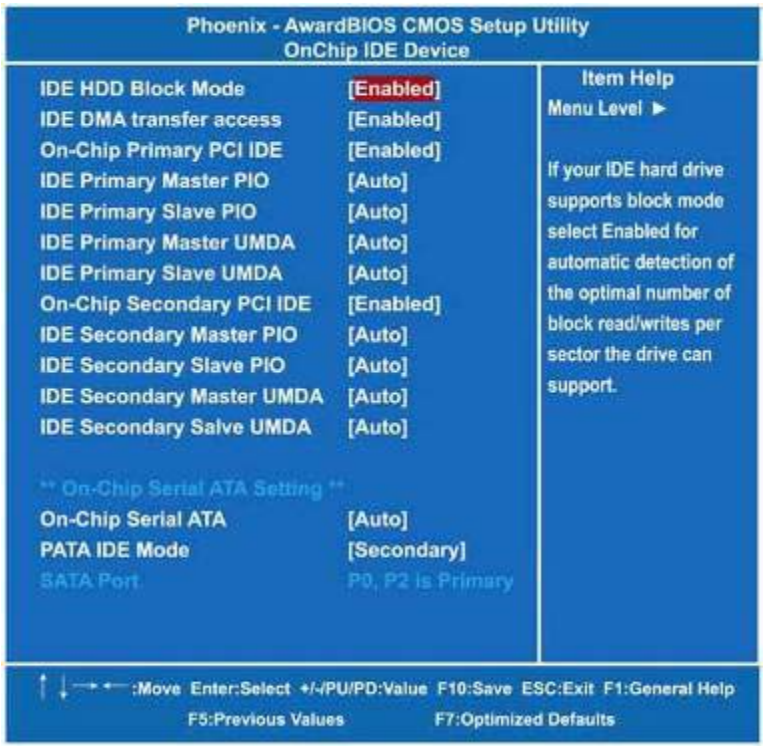
Press <Esc> to return to the Main Menu page.

3.8 Integrated Peripherals

This section allows you to configure your SuperIO Device, IDE Function and Onboard Device.

- **OnChip IDE Device**

Scroll to this item and press <Enter> to view the sub menu OnChip IDE Device.



- **IDE HDD Block Mode** Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read/writes per sector the drive can support.
- **IDE DMA transfer access** Automatic data transfer between system memory and IDE device with minimum CPU intervention. This improves data throughput and frees CPU to perform other tasks.
- **On-Chip Primary/Secondary PCI IDE**
  The integrated peripheral controller contains an IDE interface with support for two IDE channels. Select Enabled to activate each channel separately. The default value is *"Enabled"*.

  NOTE *Choosing Disabled for these options willautomatically remove the IDE rimaryMaster/Slave PIO and/or IDE Secondary Master/Slave PIO items on the menu.*
- **IDE Master/Slave PIO**
  The four IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 to 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device.
- **IDE Master/Slave UDMA**
  Select the mode of operation for the IDE drive. Ultra DMA33/66/100/133 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver. If your hard drive and your system software both support Ultra DMA-33/66/100/133, select Auto to enable UDMA mode by BIOS.

***** On-Chip Serial ATA Setting *****

- **On-Chip Serial ATA**

  Use this item to enable or disable the built-in on-chip serial ATA.

- **PATA IDE Mode** Use this item to set the PATA IDE mode. When set to Primary, P1 and P3 are Secondary; on the other hand, when set to Secondary, P0 and P2 are Primary.

- **SATA Port** If the “PATA IDE Mode“ is Primary, it will show ” P1, P3 is Secondary” which means SATA 2 and SATA 4 are Secondary. If the “PATA IDE Mode “ is Secondary, it will show “ P0, P2 is Primary “ which means SATA 1 and SATA 3 are Primary.

Press <Esc> to return to the Integrated Peripherals page.

- **Onboard Device**

Scroll to this item and press <Enter> to view the sub menu Onboard Device.

- **USB Controller**

  Enable this item if you are using the USB in the system. You should disable this item if a higher-level controller is added.

- **USB 2.0 Controller**

  Enable this item if you are using the EHCI (USB2.0) controller in the system.

- **AC’97 Audio Select**

  Use this item to enable or disable the onboard AC’97 Audio function.

Press <Esc> to return to the Integrated Peripherals page.

- **Super IO Device**

Scroll to this item and press <Enter> to view the sub menu Super IO Device.

- **Onboard Serial Port 1/2/3/4/5/6** Select an address and corresponding interrupt for the serial port. Options: *3F8/IRQ4*, *2E8/IRQ3*, *3E8/IRQ4*, *2E8/IRQ3*, *3F0/IRQ4*, *2E0/IRQ3*, *Disabled*.
- **Onboard Paralellel Port** This item allows you to determine access onboard parallel port controller with which I/O address. The options available are *378H/IRQ7*, *278H/IRQ5*, *3BC/IRQ7*, *Disabled*.
- **Parallel Port Mode** Select an operating mode for the onboard parallel (printer) port. Select Normal unless your hardware and software require one of the other modes offered in this field. The options available are *EPP1.9*, *ECP*, *SPP*, *ECPEPP1.7*, *EPP1.7*.
- **EPP Mode Select**
- Select EPP port type 1.7 or 1.9.
- **ECP Mode Use DMA** Select a DMA channel for the parallel port for use during ECP mode.
- **PWRON After PWR-Fail**

  This item enables your computer to automatically restart or return to its operating status.

Press <Esc> to return to the Integrated Peripherals page, and press it again to the Main Menu page.

3.9 Power Management Setup

The Power Management Setup allows you to save energy of your system effectively. It will shut down the hard disk and turn OFF video display after a period of inactivity.

- **ACPI Function** This item allows you to enable/disable the Advanced Configuration and Power Management (ACPI). The function is always Enabled.
- **ACPI Suspend Type** This item specifies the power saving modes for ACPI function. If your operating system supports ACPI, such as Windows 98SE, Windows ME and Windows 2000, you can choose to enter the Standby mode in S1 (POS) or S3 (STR) fashion through the setting of this field. Options are: [S1(POS)] The S1 sleep mode is a low power state. In this state, no system context is lost (CPU or chipset) and hardware maintains all system context. [S3(STR)] The S3 sleep mode is a lower power state where the information of system configuration and open applications/files is saved to main memory that remains powered while most other hardware components turn off to save energy. The information stored in memory will be used to restore the system when a “wake up” event occurs.
- **Power Management**

  This option allows you to select the type of power Management. The options available are APM, ACPI.
- **Video Off Method**

  This setting determines the manner in which the monitor is blanked.

V/H SYNC+Blank	Turns OFF vertical and horizontal synchronization ports and writes blanks to the video buffer
DPMS	Select this option if your monitor supports the Display Power Management Signaling (DPMS) standard of the Video Electronics Standards Association (VESA). Use the software supplied for your video subsystem to select video power management values.
Blank Screen	System only writes blanks to the video buffer.

- **Video Off In Suspend** This item defines if the video is powered down when the system is put into suspend mode.
- **Suspend Type** If this item is set to the default Stop Grant, the CPU will go into Idle Mode during power saving mode.
- **Moden Use IRQ** If you want an incoming call on a modem to automatically resume the system from a powersaving mode, use this item to specify the interrupt request line (IRQ) used by the modem. You might have to connect the fax/modem to the board Wake On Modem connector for working this feature.
- **Suspend Mod**e
  After the selected period of system inactivity (1 minute to 1 hour),
  all devices except the CPU shut off. The default value is *"Disabled"*.

Disabled	System will never enter SUSPEND mode
1/2/4/6/8/10/20/30/40 Min/1 Hr	Defines the continuous idle time before the system entering SUSPEND mode. If any item defined in (J) is enabled & active, SUSPEND timer will be reloaded

- **HDD Power Down** If HDD activity is not detected for the length of time specified in this field, the hard disk drive will be powered down while all other devices remain active.
- **Soft-Off by PWR-BTTN** This option only works with systems using an ATX power supply. It also allows the user to define which type of soft power OFF sequence the system will follow. The default value is *"Instant-Off"*.

Instant-Off	This option follows the conventional manner systems perform when power is turned OFF. Instant-Off is a soft power OFF sequence requiring only the switching of the power supply button to OFF
Delay 4 Sec.	Upon turning OFF system from the power switch, this option will delay the complete system power OFF sequence by approximately 4 seconds. Within this delay period, system will temporarily enter into Suspend Mode enabling you to restart the system at once.

This option follows the conventional manner systems perform when power is turned OFF. Instant-Off is a soft power OFF sequence requiring only the switching of the power supply button to OFF

Upon turning OFF system from the power switch, this option will delay the complete system power OFF sequence by approximately 4 seconds. Within this delay period, system will temporarily enter into Suspend Mode enabling you to restart the system at once.

- Wake-Up by PCI PME If enable this item, when the PCI LAN card receives an incoming call, it will send PME signals out. And then, the system can automatically resume rebooting.

- Power On by Ring This option allows the system to resume or wake up upon detecting any ring signals coming from an installed modem. The default value is “Enabled”.

- Resume by Alarm If enable this item, the system can automatically resume after a fixed time in accordance with the system’s RTC (realtime clock).

Press <Esc> to return to the Main Menu page.

3.10 PnP/PCI Configuration Setup

This section describes configuring the PCI bus system. PCI, or Personal Computer Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed the CPU itself uses when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.

- **Init Display First** This item allows you to decide whether PCI Slot to be the first primary display card.

- **Reset Configuration Data** Normally, you leave this item Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup or if installing a new add-on cause the system reconfiguration a serious conflict that the operating system can not boot. Options are: “*Enabled*, *Disabled*”.

- **Resources Controlled By** The Award Plug and Play BIOS can automatically configure all boot

and Plug and Play-compatible devices. If you select Auto, all interrupt request (IRQ), DMA assignment, and Used DMA fields disappear, as the BIOS automatically assigns them. The default

- value is “*Manual*”.
- **IRQ Resources** When resources are controlled manually, assign each system interrupt to one of the following types in accordance with the type of devices using the interrupt:
- Legacy ISA Devices compliant with the original PC AT bus specification, requiring a specific interrupt (such as IRQ4 for serial port 1).
- PCI/ISA PnP Devices compliant with the Plug and Play standard,

- whether designed for PCI or ISA bus architecture.
  The default value is “*PCI/ISA PnP*”.

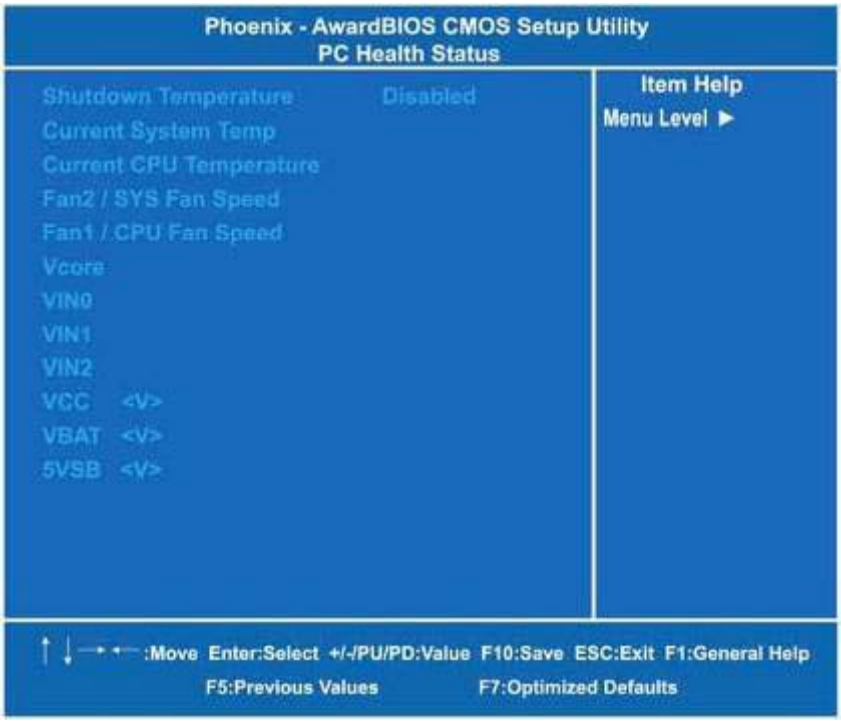
- **PCI/VGA Palette Snoop** Some non-standard VGA display cards may not show colors properly. This item allows you to set whether MPEG ISA/VESA VGA Cards can work with PCI/VGA or not. When enabled, a PCI/VGA can work with a MPEG ISA/VESA VGA card; when disabled, a PCI/VGA cannot work with a MPEG ISA/VESA Card.

**** PCI Express relative items **** z **Maximum Payload Size**
When using DDR SDRAM and Buffer size selection, another consideration in designing a payload memory is the size of the buffer for data storage. Maximum Payload Size defines the maximum TLP (Transaction Layer Packet) data payload size for the device.

Press <Esc> to return to the Main Menu page.

3.11 PC Health Statuses

This section supports hardware monitering that lets you monitor those parameters for critical voltages, temperatures and fan speed of the board.

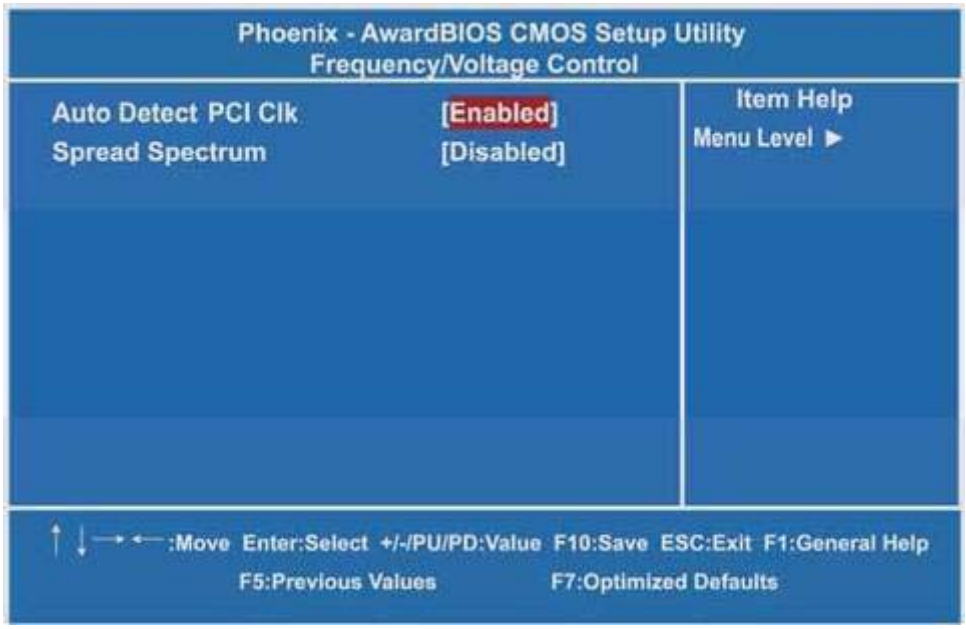


- **Shutdown Temperature**
  - It helps you set the maximum temperature they system can reach
  - before powering down.
- **Current SYSTEM Temperature**
  - Show you the current system temperature.
- **Current CPU Temperature** These read-only fields reflect the functions of the hardware thermal sensor that monitors the chip blocks and system temperatures to ensure the system is stable.
- **Fan2 / SYS FAN Speed**
  - Show you the current system fan temperature.
- **Fan1 / CPU FAN Speed**

These optional and read-only items show current speeds in RPM (Revolution Per Minute) for the CPU fan and chassis fan as monitored by the hardware monitoring IC. Press <Esc> to return to the Main Menu page.

3.12 Frequency/Voltage Control

This section is to control the CPU frequency and Supply Voltage, DIMM OverVoltage and AGP voltage.

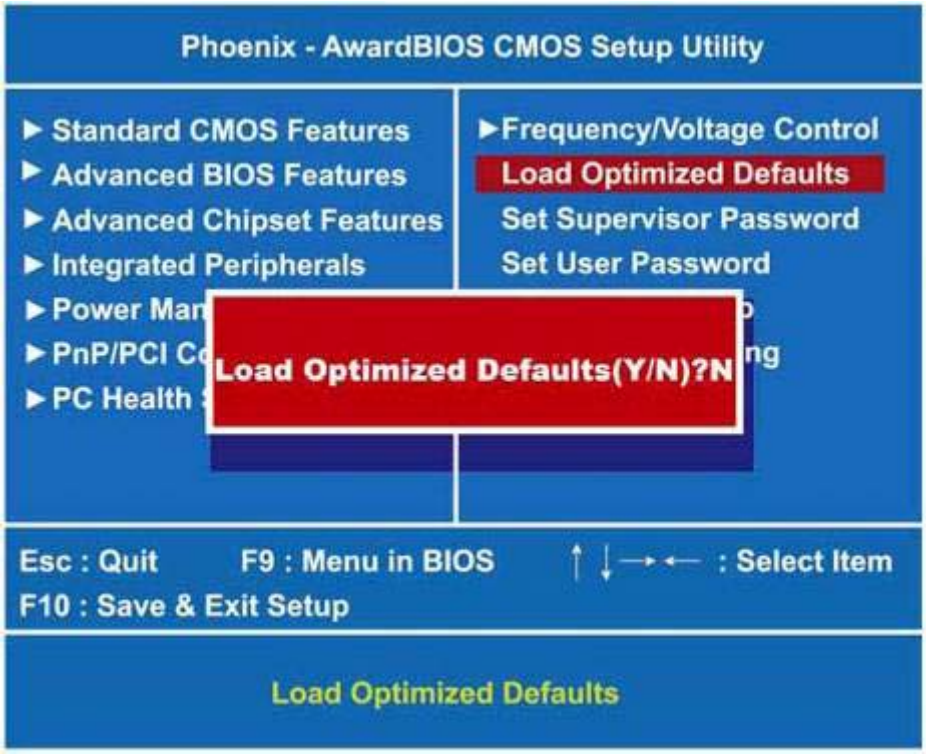


- **Auto Detect PCI Clk** The enabled item can automatically disable the clock source for a PCI slot which does not have a module in it, reducing EMI (ElectroMagnetic Interference).
- **Spread Spectrum** If spread spectrum is enabled, EMI (ElectroMagnetic Interference) generated by the system can be significantly reduced.

Press <Esc> to return to the Main Menu page.

3.13 Load Optimized Defaults

This option allows you to load the default values to your system configuration. These default settings are optimal and enable all high performance features.



To load SETUP defaults value to CMOS SRAM, enter “Y”. If not, enter “N”.

3.14 Set Supervisor/User Password

You can set a supervisor or user password, or both of them. The differences between them are:

1 **Supervisor password:** You can enter and change the options on the setup menu.
2 **User password:** You can just enter, but have no right to change the options on the setup menu.

When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

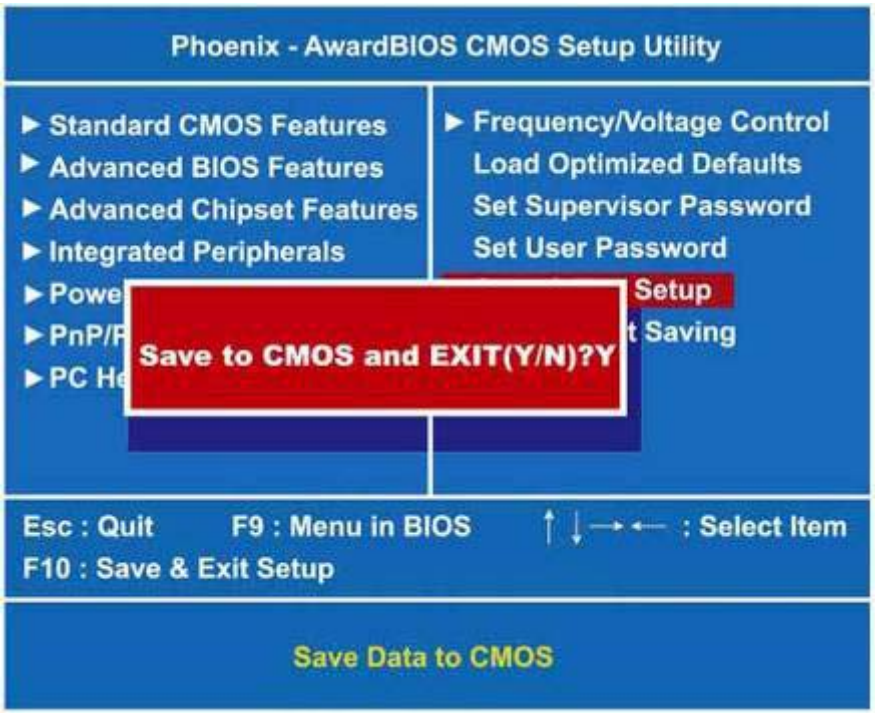
ENTER PASSWORD Type a maximum eight-character password, and press <Enter>. This typed password will clear previously entered password from the CMOS memory. You will be asked to confirm this password. Type this password again and press <Enter>. You may also press <Esc> to abort this selection and not enter a password. To disable the password, just press <Enter> when you are prompted to enter a password. A message will confirm the password is getting disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

PASSWORD DISABLED When a password is enabled, you have to type it every time you enter the Setup. It prevents any unauthorized persons from changing your system configuration. Additionally, when a password is enabled, you can also require the BIOS to request a password every time the system reboots. This would prevent unauthorized use of your computer.

You decide when the password is required for the BIOS Features Setup Menu and its Security option. If the Security option is set to “System”, the password is required during booting up and entry into the Setup; if it is set as “Setup”, a prompt will only appear before entering the Setup.

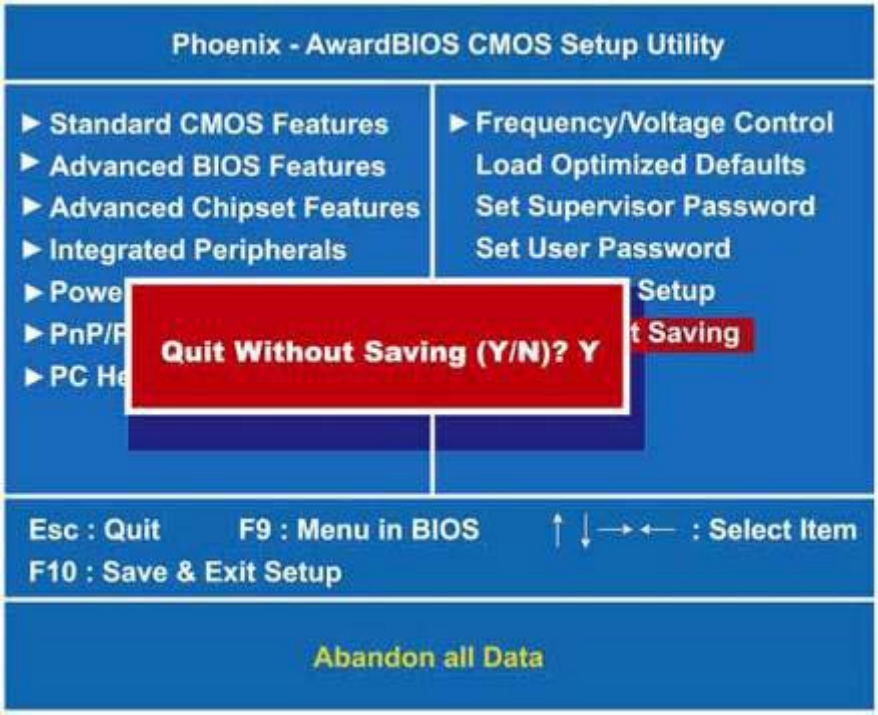
3.15 Save & Exit Setup

This allows you to determine whether or not to accept the modifications. Typing “Y” quits the setup utility and saves all changes into the CMOS memory. Typing “N” brigs you back to Setup utility.



3.16 Exit Without Saving

Select this option to exit the Setup utility without saving the changes you have made in this session. Typing “Y” will quit the Setup utility without saving the modifications. Typing “N” will return you to Setup utility.



Chapter 4 Installation of Drivers

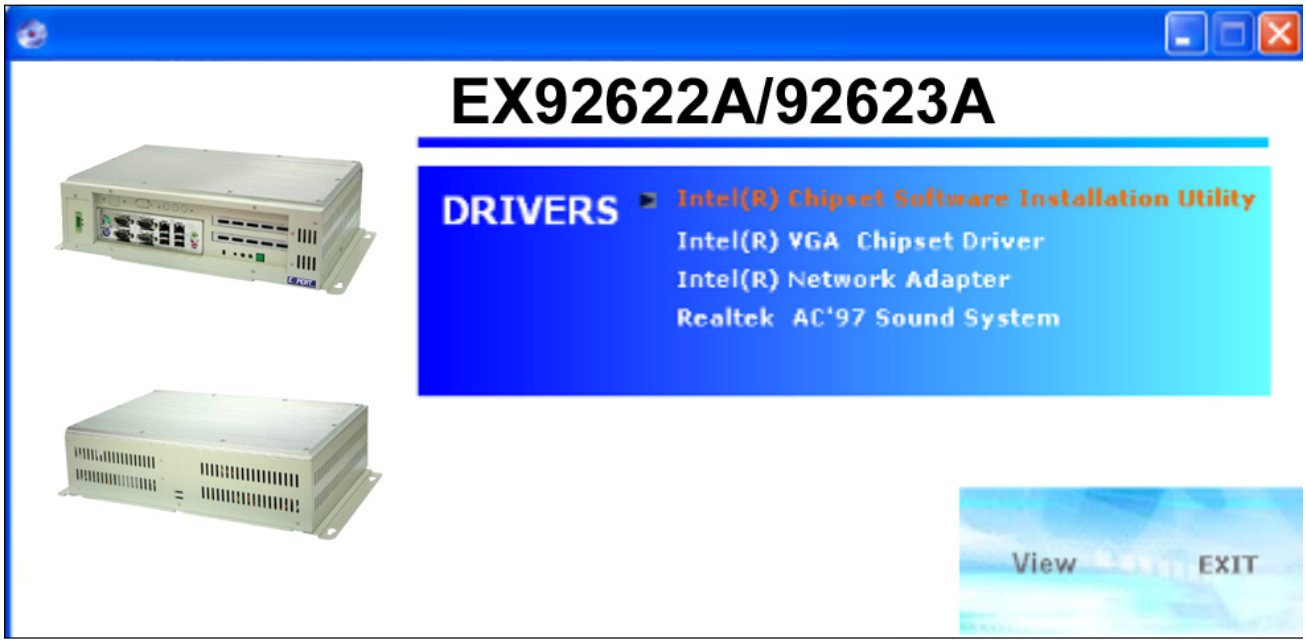
This chapter describes the installation procedures for software and drivers under the Windows XP. The software and drivers are included with the motherboard. The contents include **Intel Chipset , VGA Driver, Network Adapter, AC'97 Audio Driver Installation.**

Important Note:
After installing your Windows operating system (Windows XP), you must install first the Intel Chipset Software Installation Utility before proceeding with the installation of drivers.

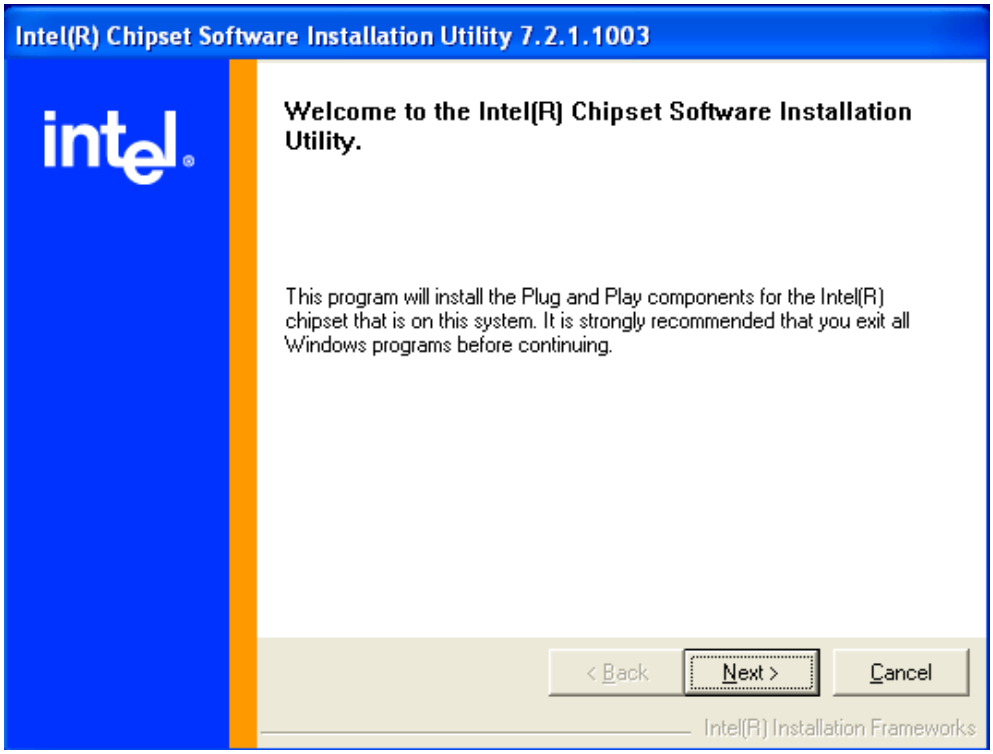
4.1 Intel Chipset Software Installation Utility

The Intel Chipset Drivers should be installed first before the software drivers to enable Plug&Play INF support for Intel chipset components. Follow the instructions below to complete the installation Under Windows 98SE/ME/2000/XP

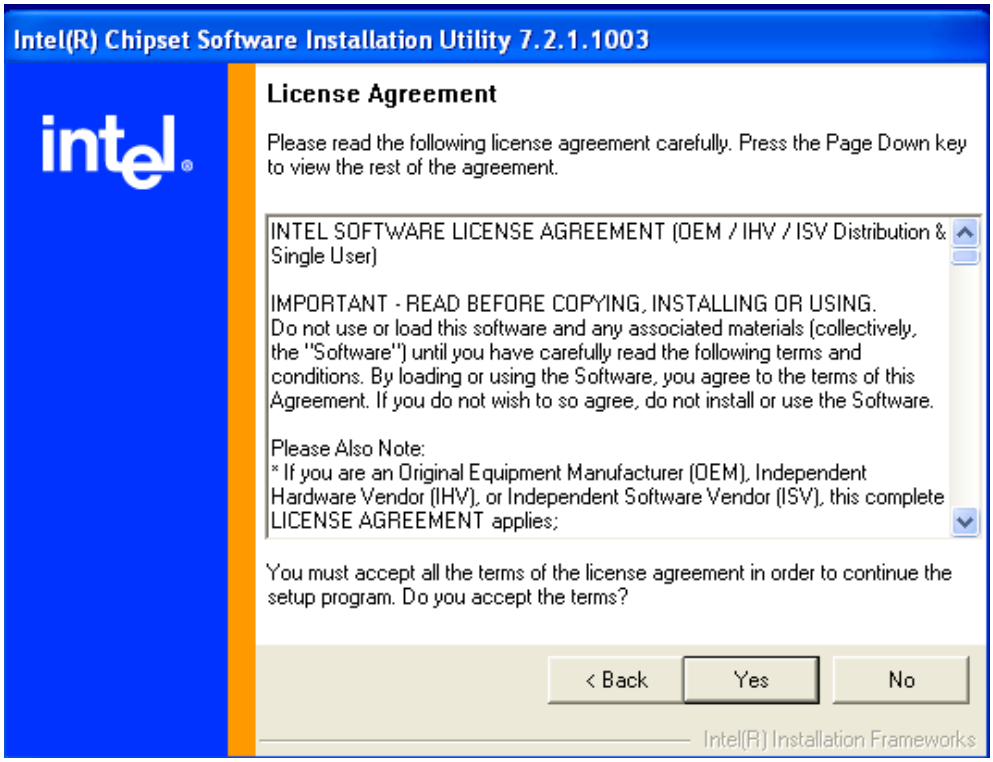
1. Insert the TOPSCCC product CD that comes with the board .
2. Click " **Intel® Chipset software installation Utility** "



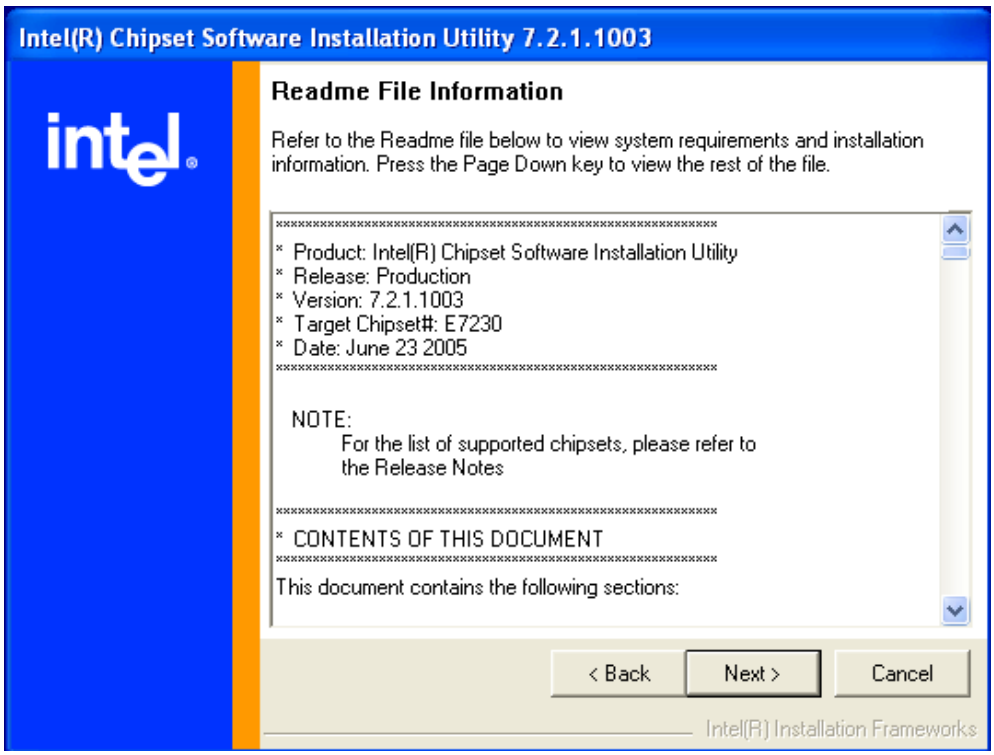
3. When the Welcome screen appears, please click **" Next "** to Continue.



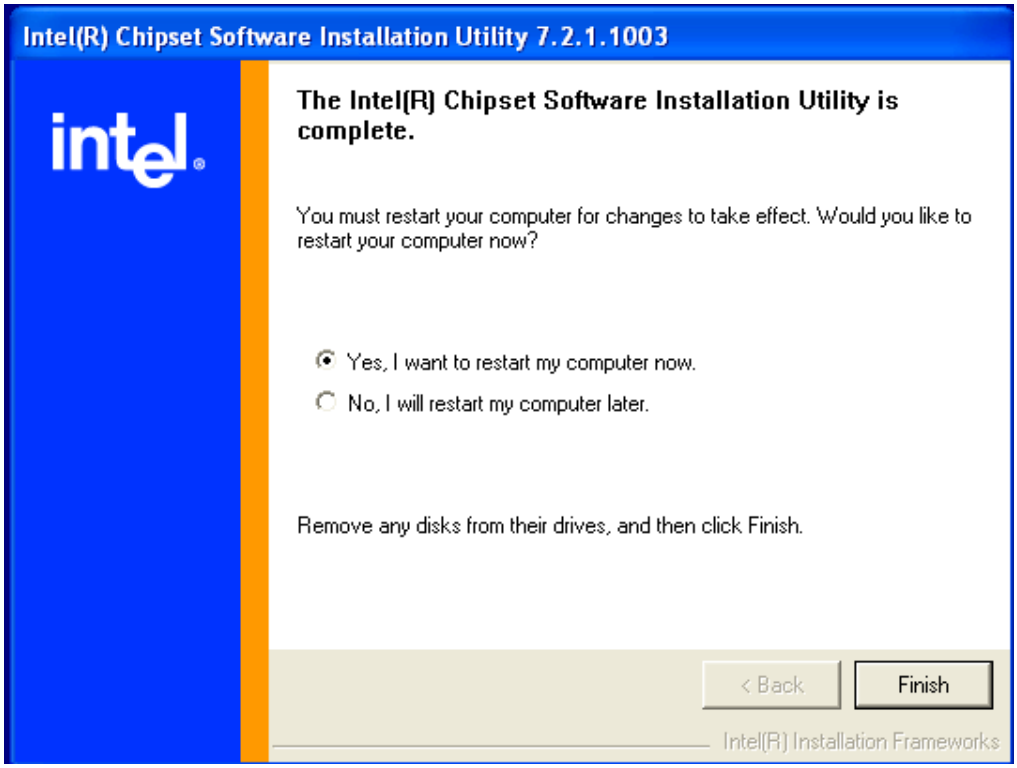
4. Click **“Yes”** to accept the software license agreement and proceed with the installation process.



5. On Readme information screen, click **“Next”** to continue the installation.



6. Click “Finish” , The Setup process is now complete.

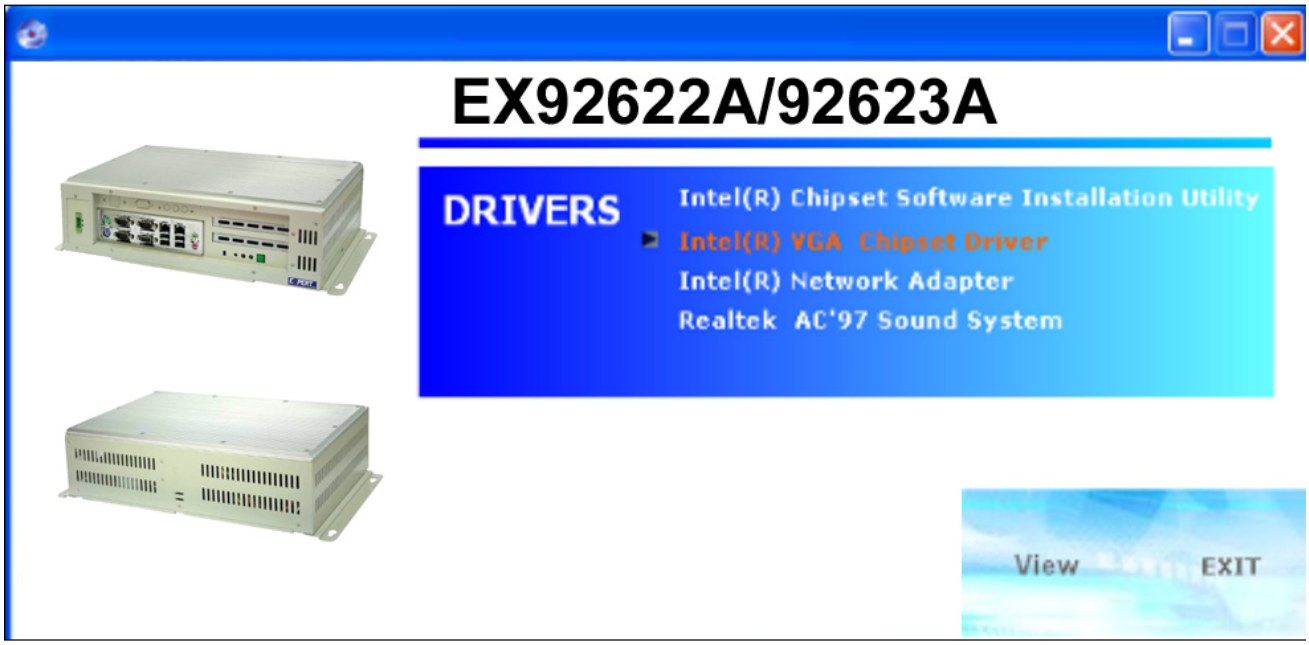


4.2 VGA Driver installation

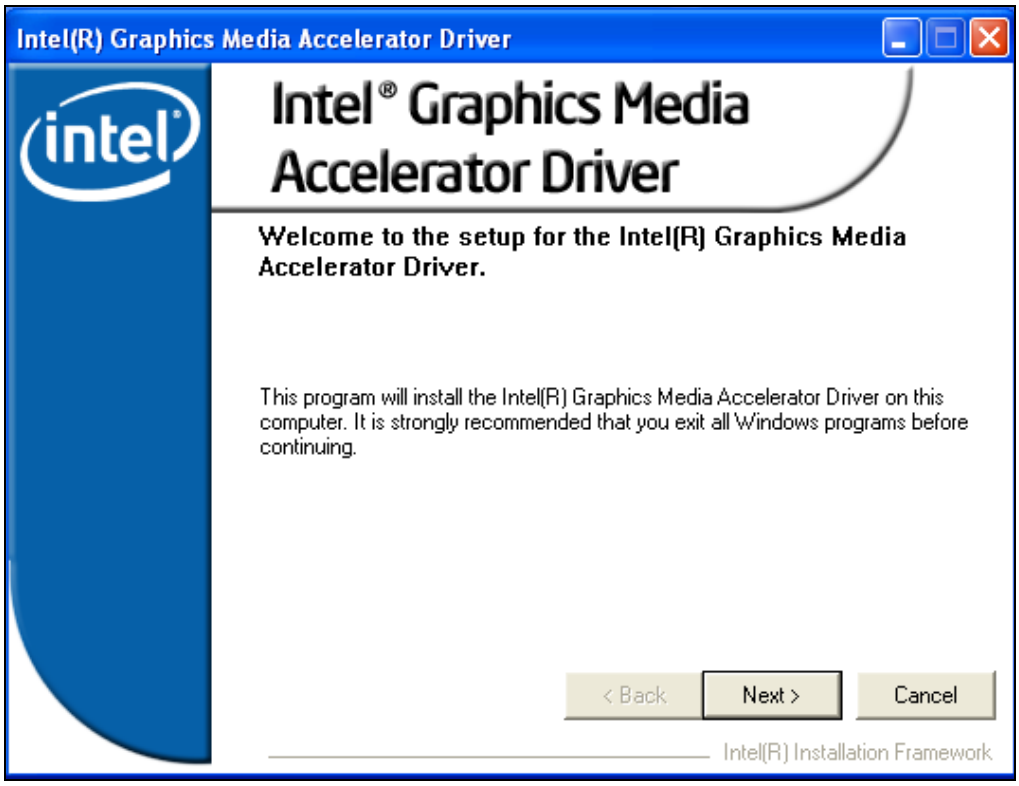
To install the VGA Driver follow the steps below to proceed with the installation.

Step 1. Insert the TOPSCCC product CD That comes with the board.

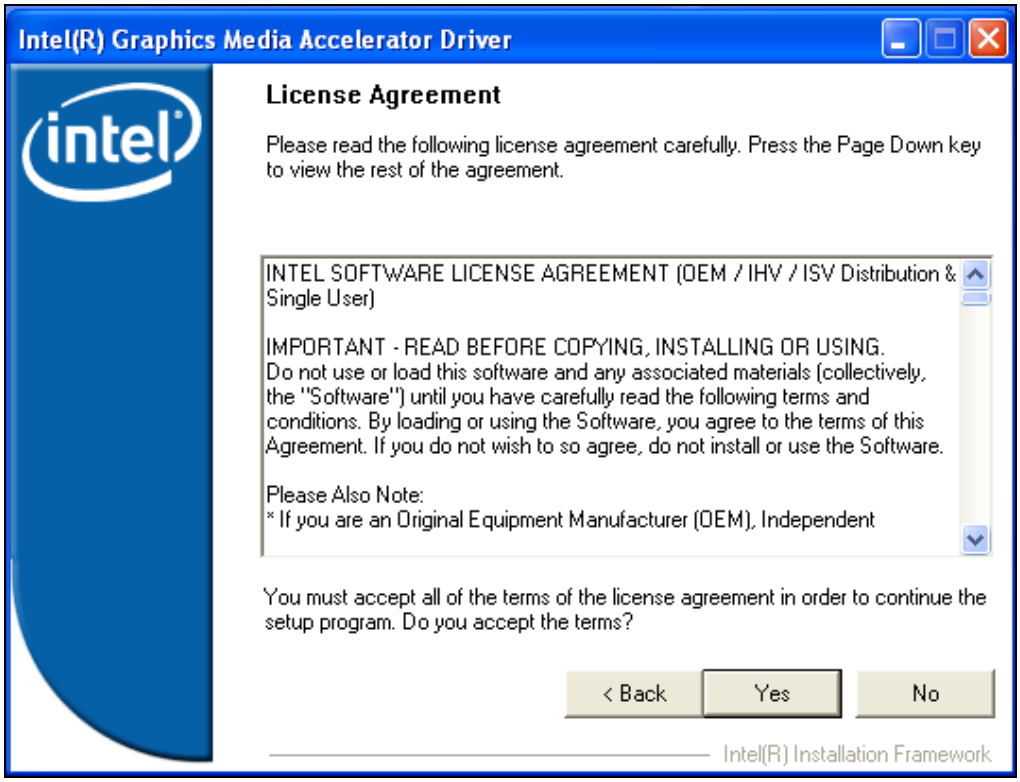
Step 2. Click " **Intel® VGA Chipset** "



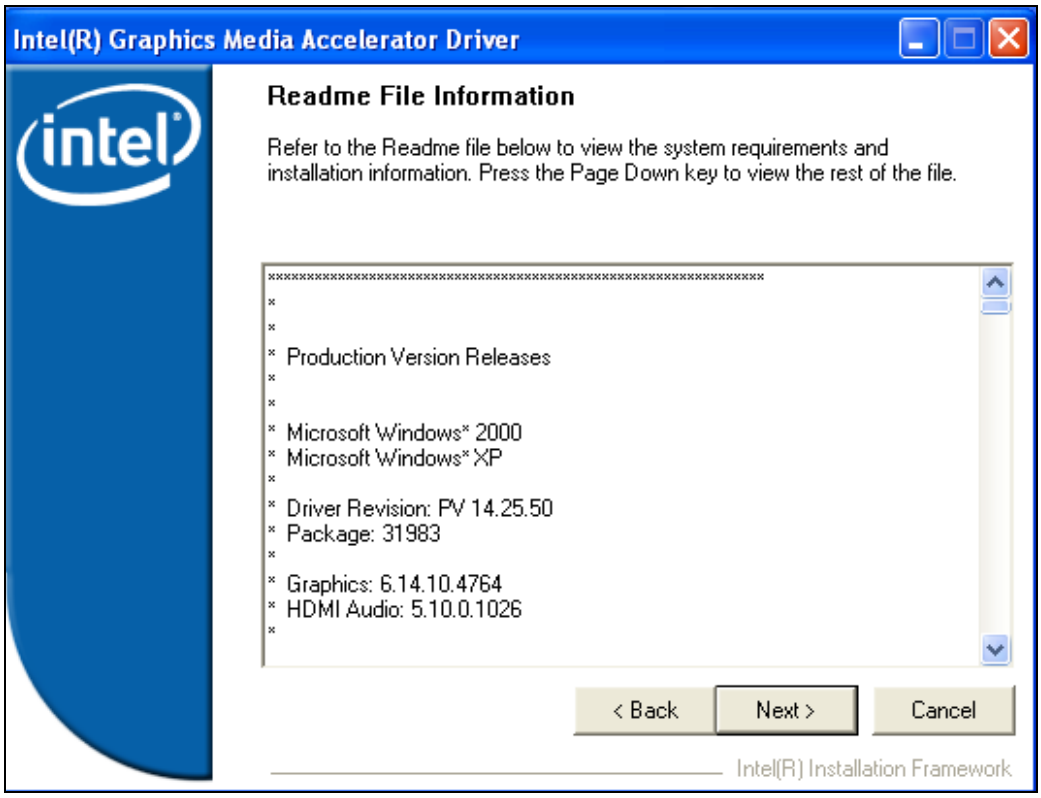
Step 3. When the Welcome screen appears , click “**Next**” to continue.



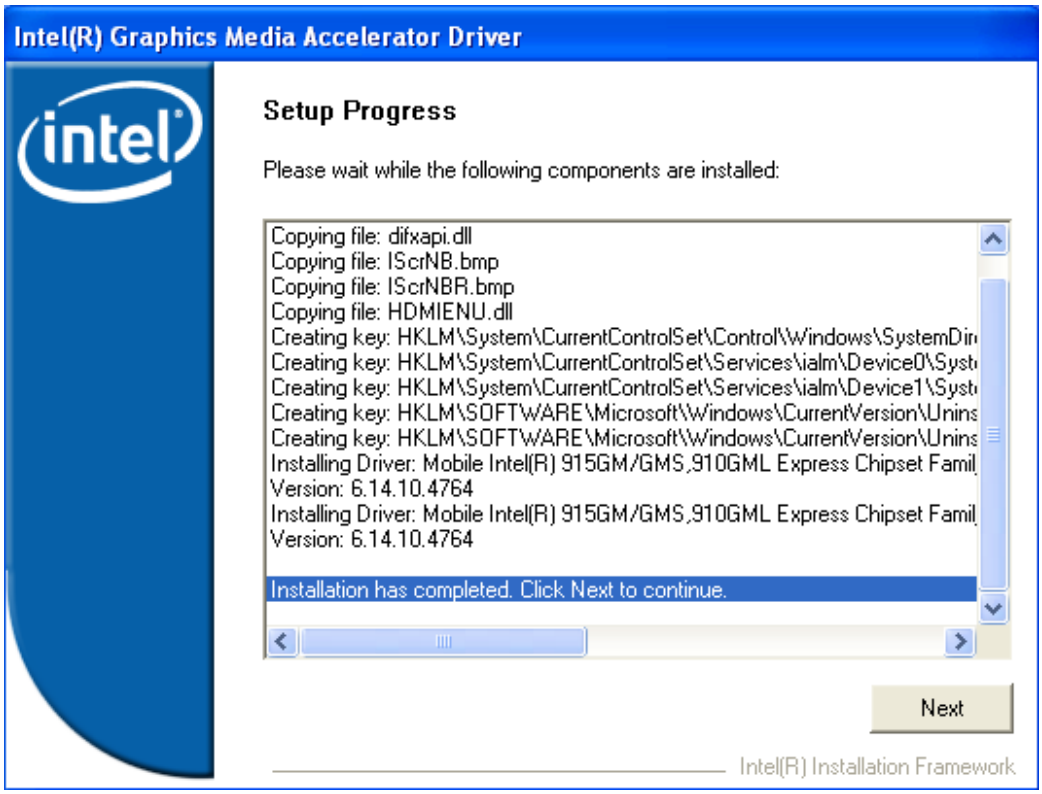
Step 4. Click **“Yes”** to accept the software license agreement and proceed with the installation process.



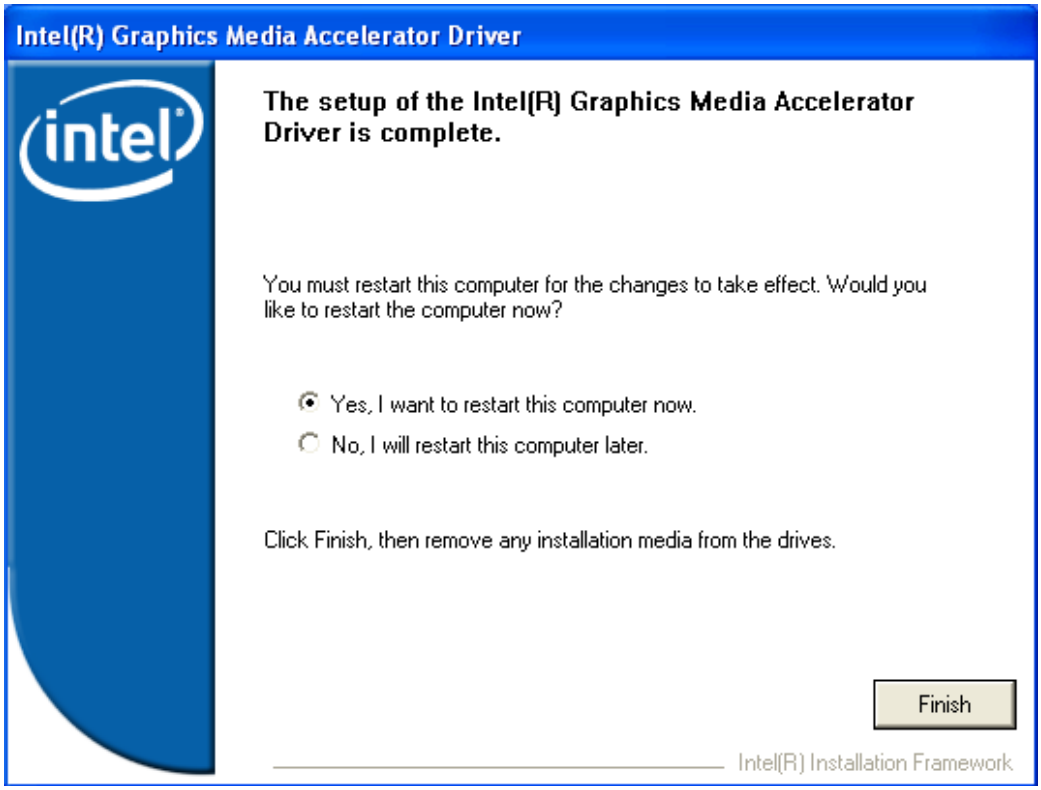
Step 5. On Readme information screen, click **“Next”** to continue the installation



Step 6 Setup Progress



Setp 7. Click “Finish” , The Setup process is now complete.

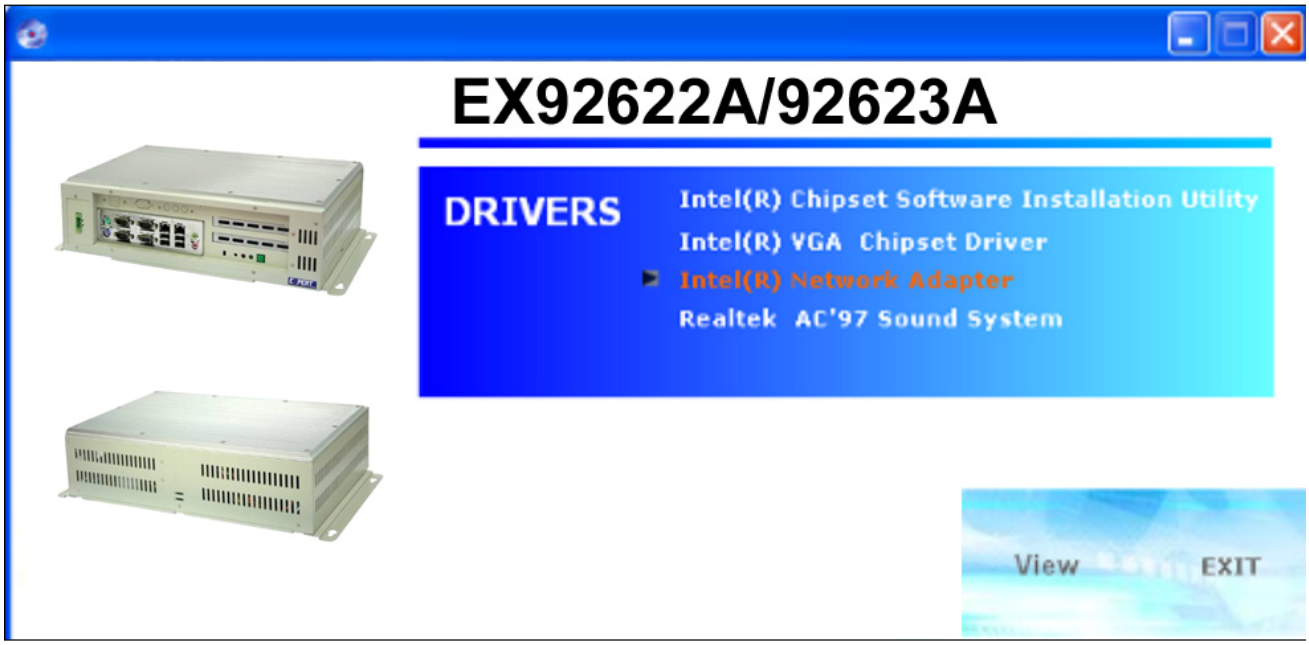


4.3 Intel LAN Drivers installation

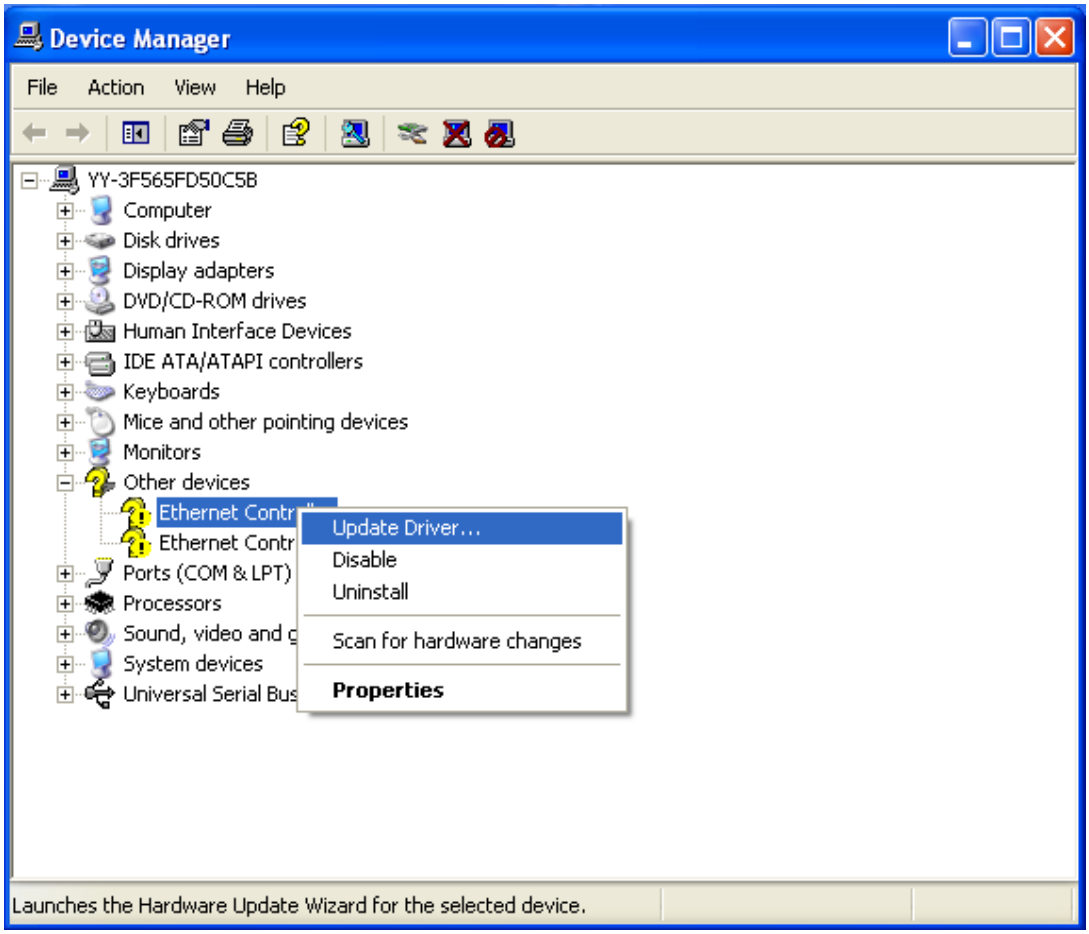
Follow the steps below to complete the installation of the Intel LAN drivers.

Step 1. Insert the TOPSCCC product CD That comes with the board.

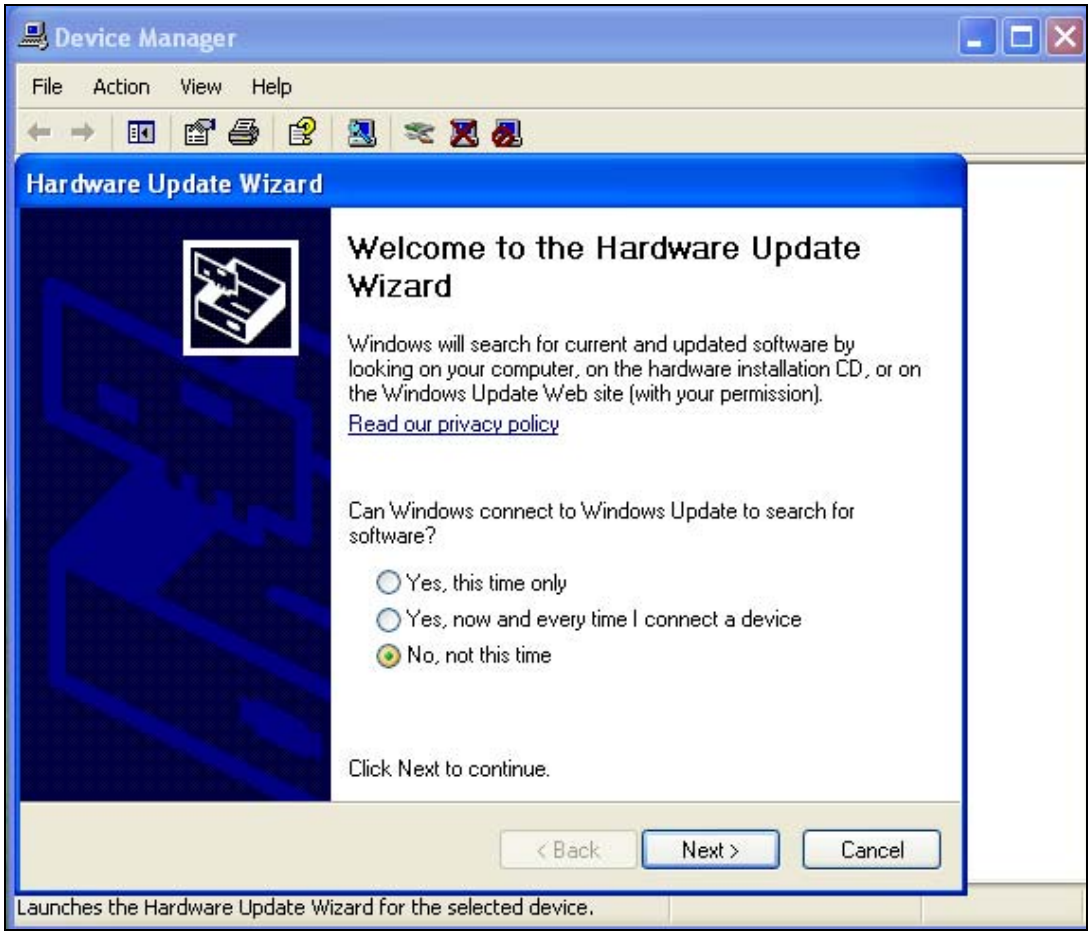
Step 2. Click "**Intel® Network Adapter** "

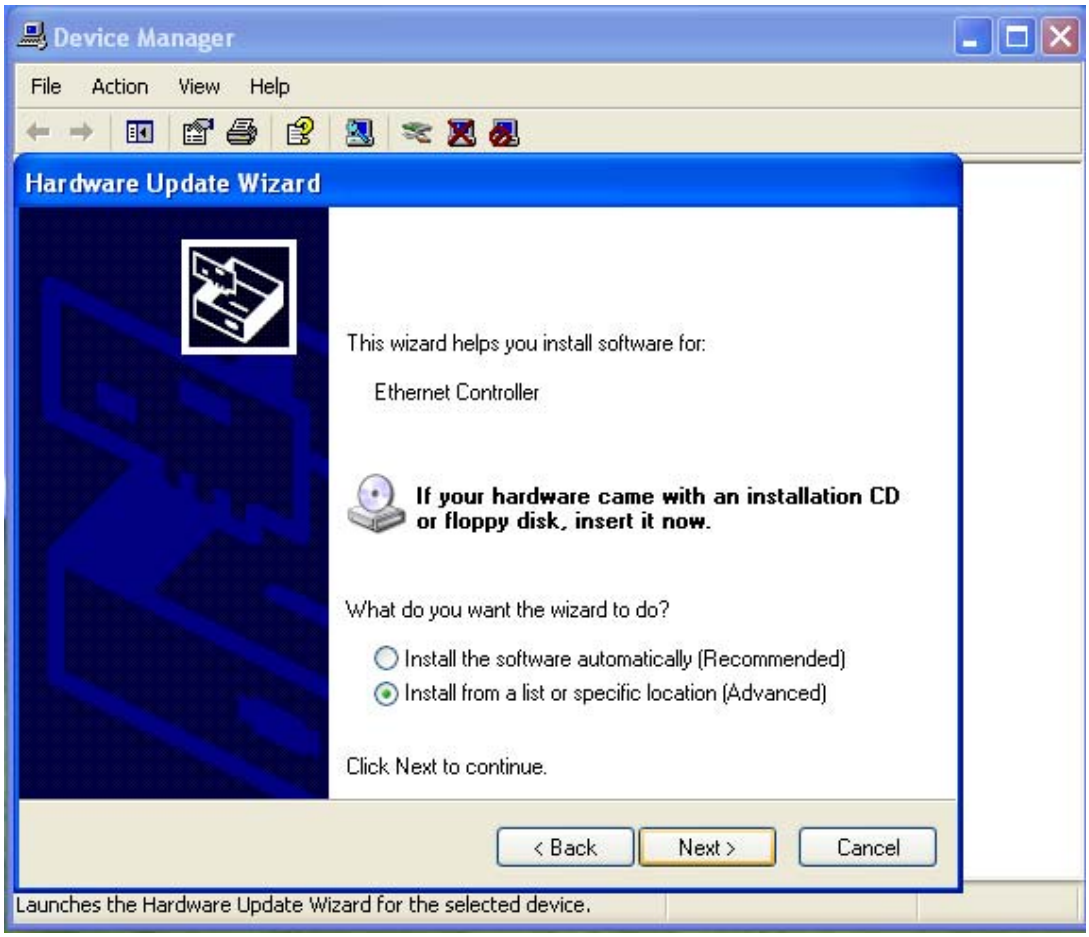


Step 3. Click “**Updated Driver”**

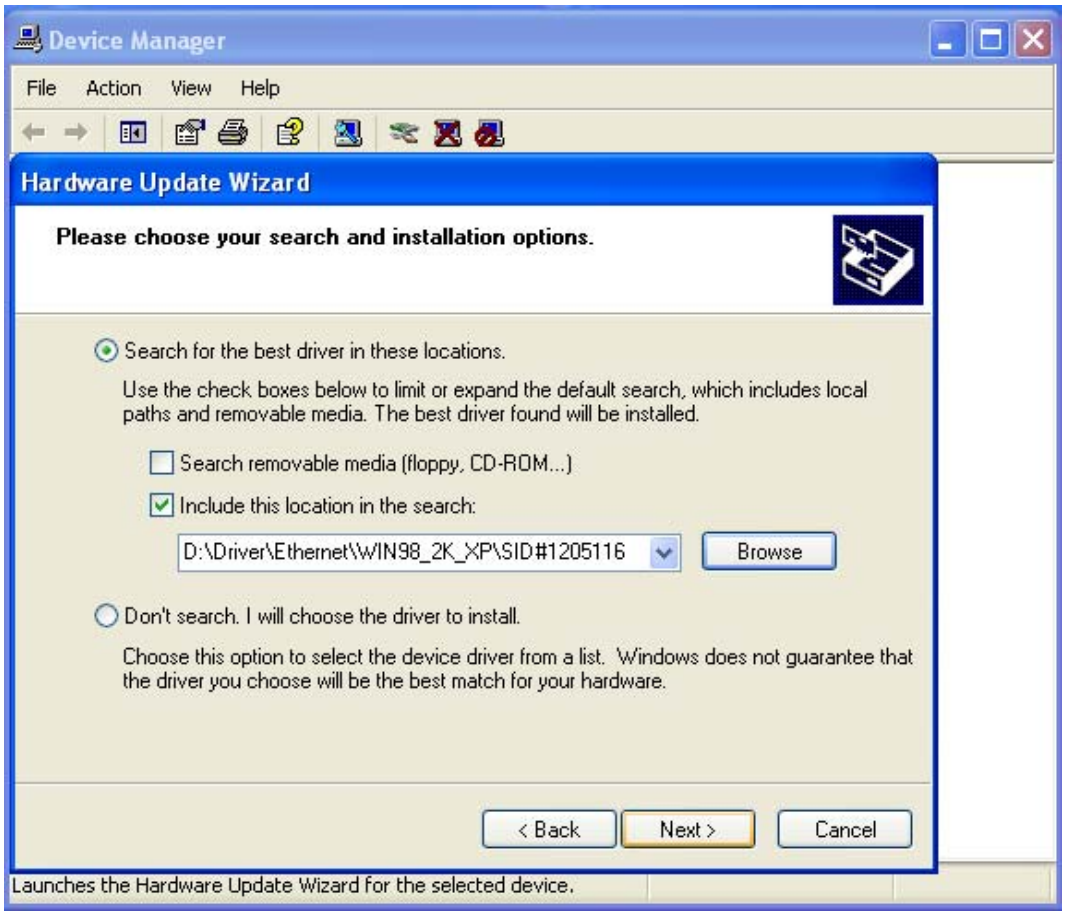


Step 4 When the Welcome screen appears, click “**Next**” to continue.

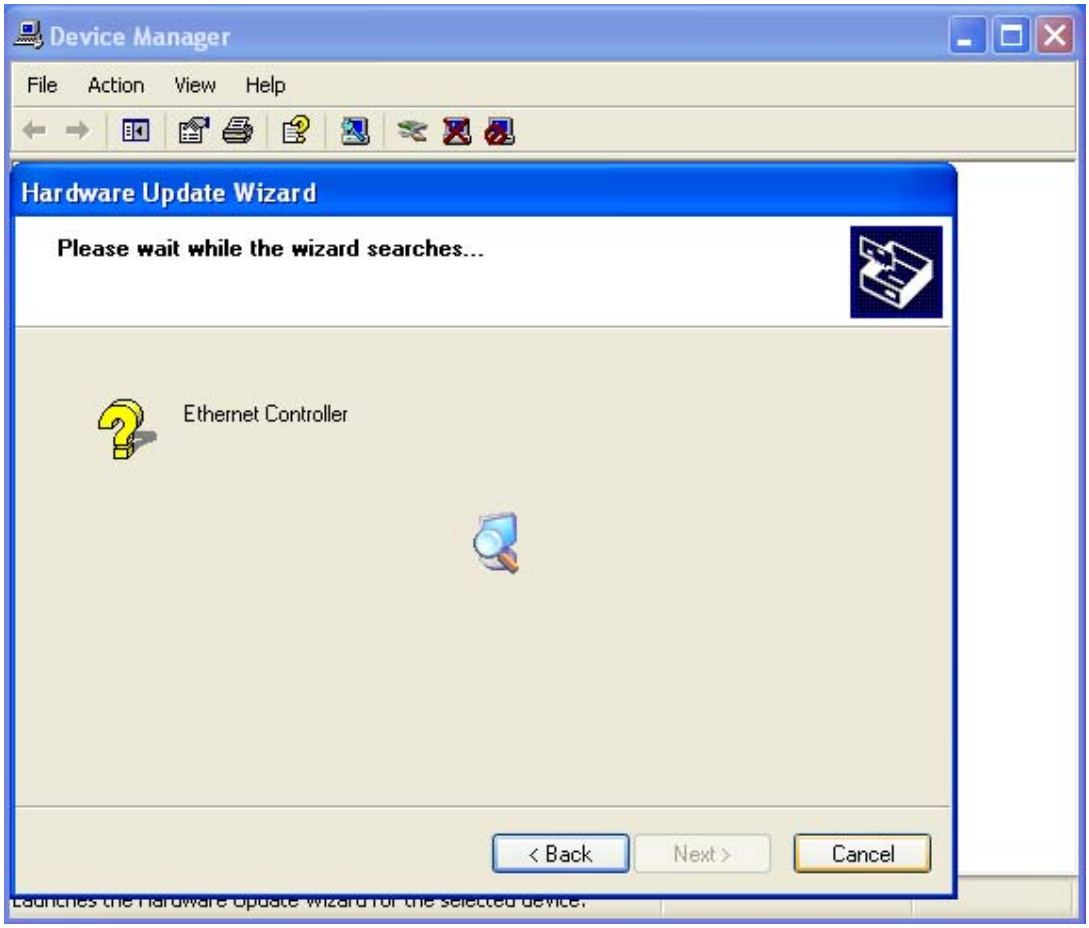


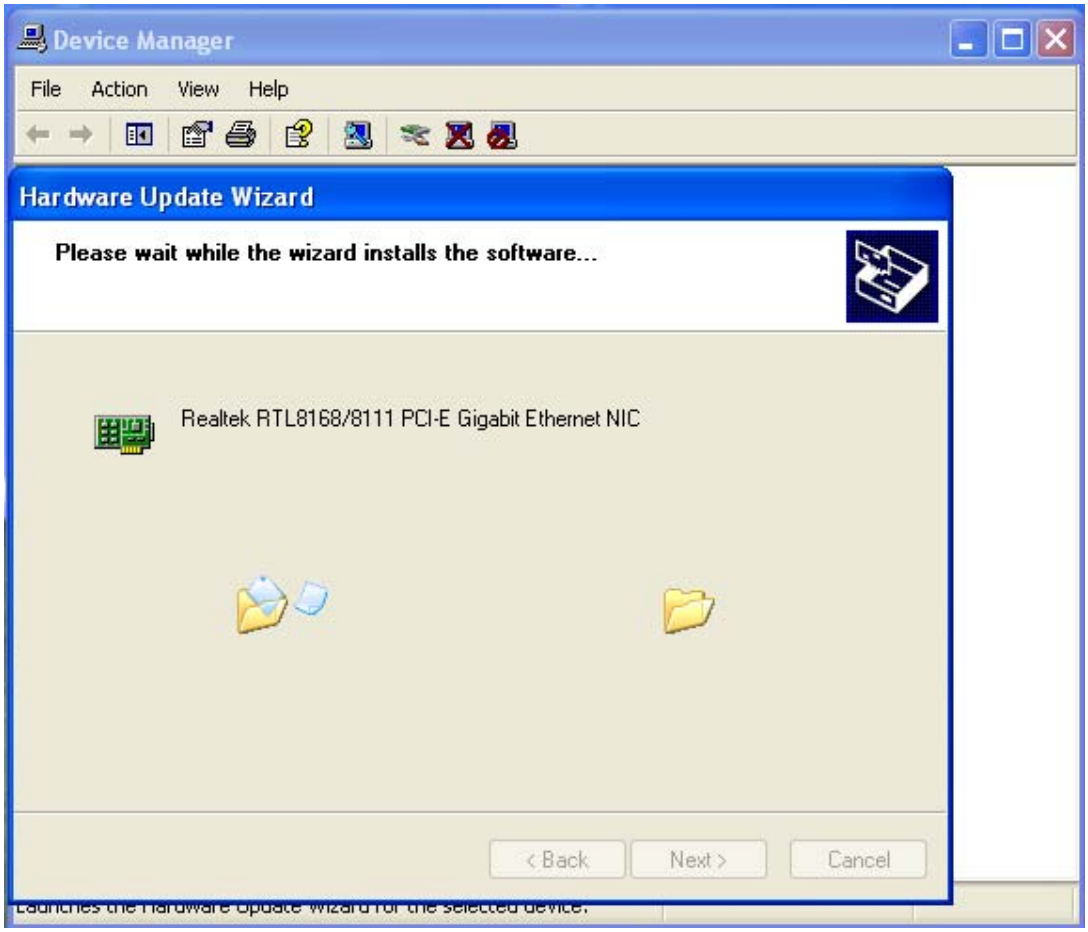


Step 5 Click "**Next**" to choose your search and installation options.

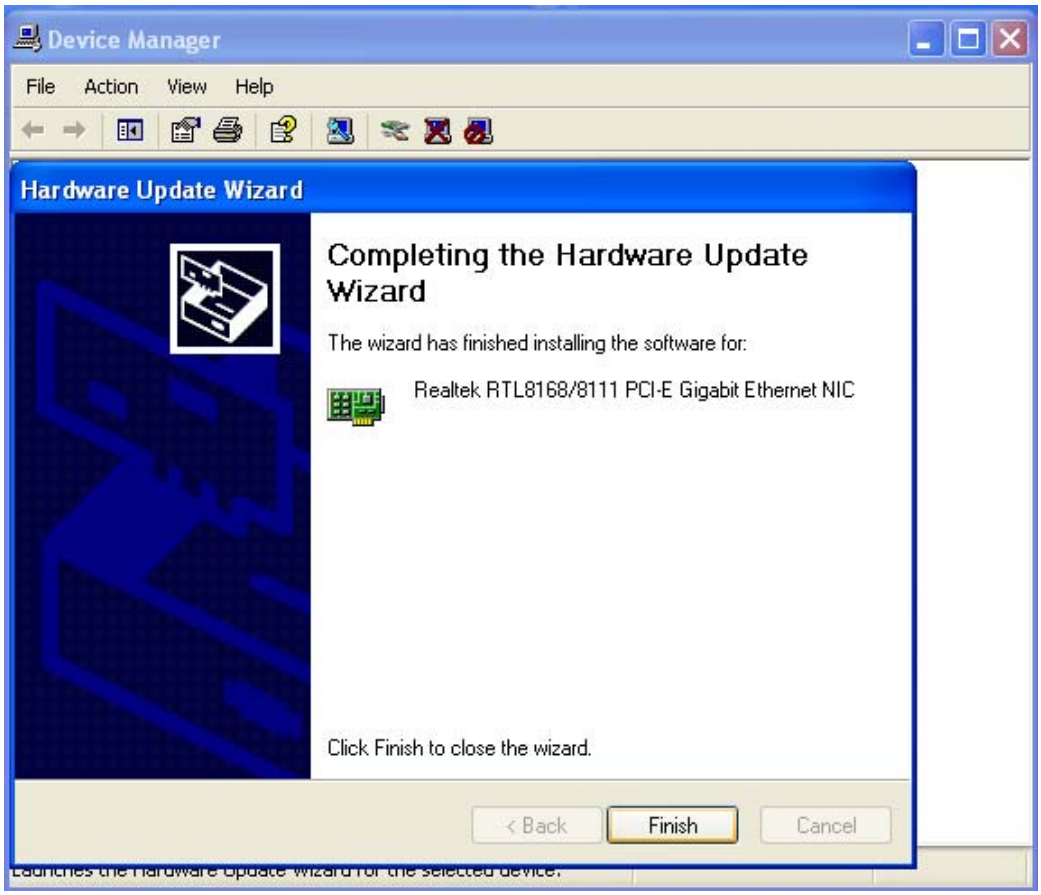


Step 6 Please wait while the wizard searches


Device Manager
File Action View Help
Hardware Update Wizard
Please wait while the wizard searches...
Ethernet Controller
< Back
Next >
Cancel


Device Manager
File Action View Help
Hardware Update Wizard
Please wait while the wizard installs the software...
Realtek RTL8168/8111 PCI-E Gigabit Ethernet NIC
< Back
Next >
Cancel

Step 7. Click “Finish” , The Completing the Hardware Update Wizard.

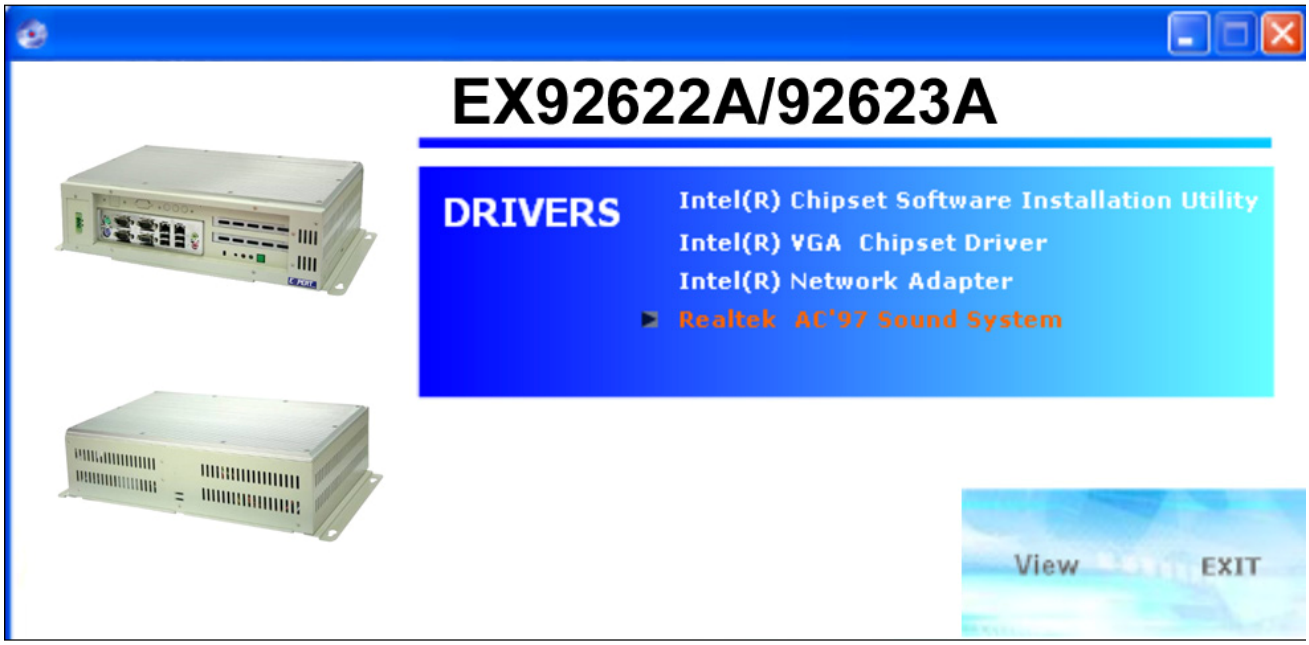


4.4 AC97 Codec Audio Driver installation

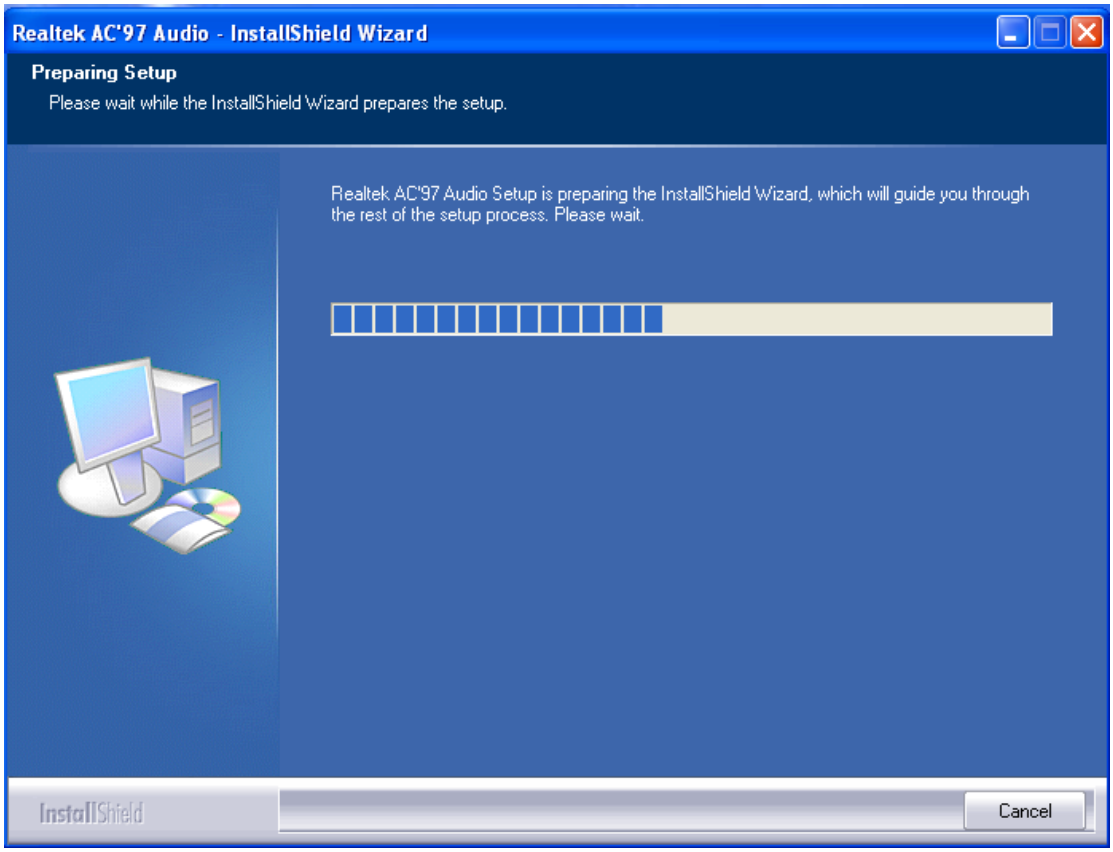
To install the Realtek AC97 codec Driver follow the steps below to proceed with the installation.

Step 1. Insert the TOPSCCC product CD　That comes with the board.

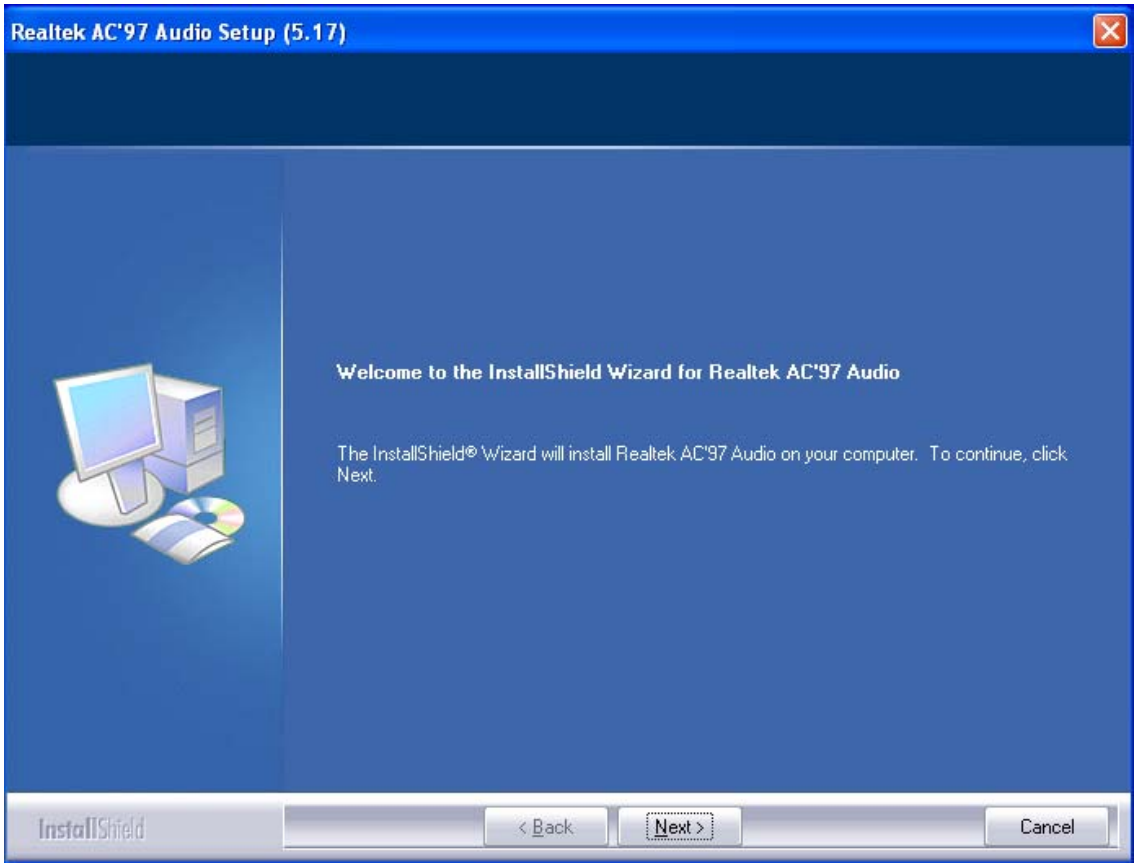
Step 2. Click “**Realtek AC97 ‘ Sound system** “



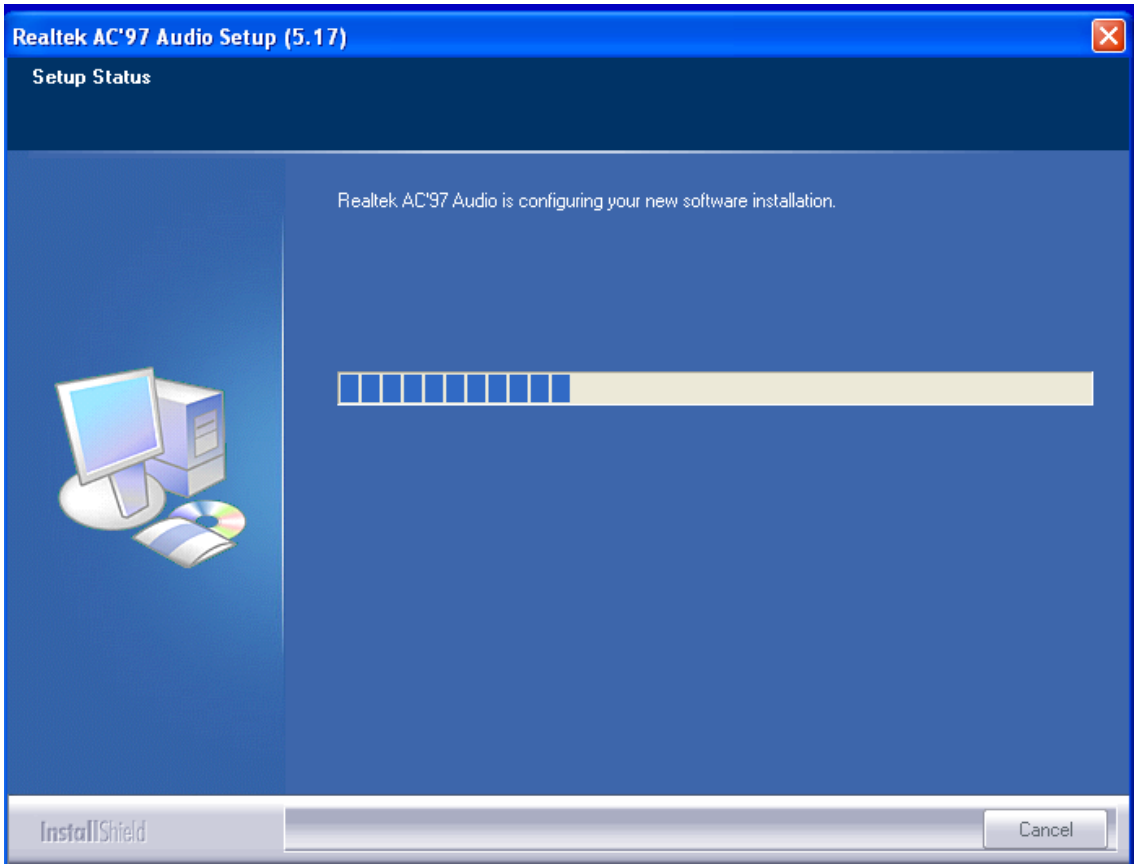
Step 3. Preparing Setup, please wait while the install shield Wizard prepares the setup.

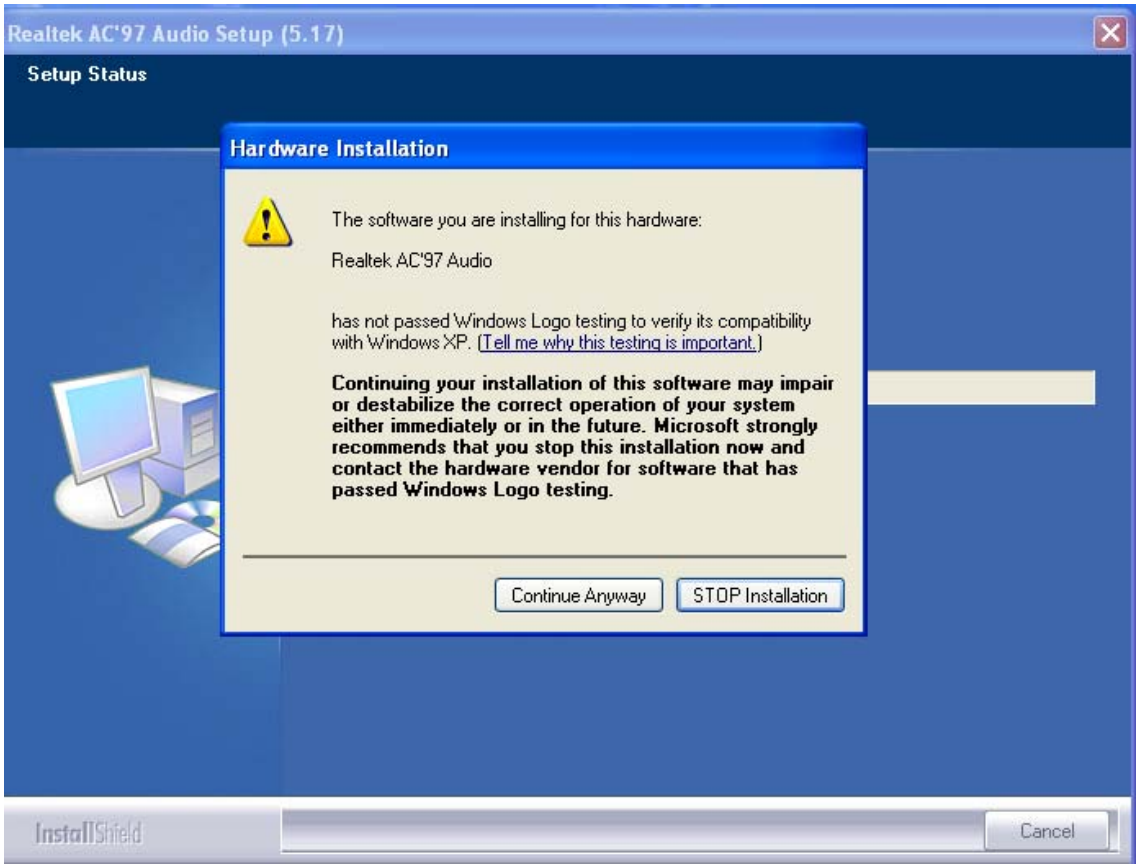


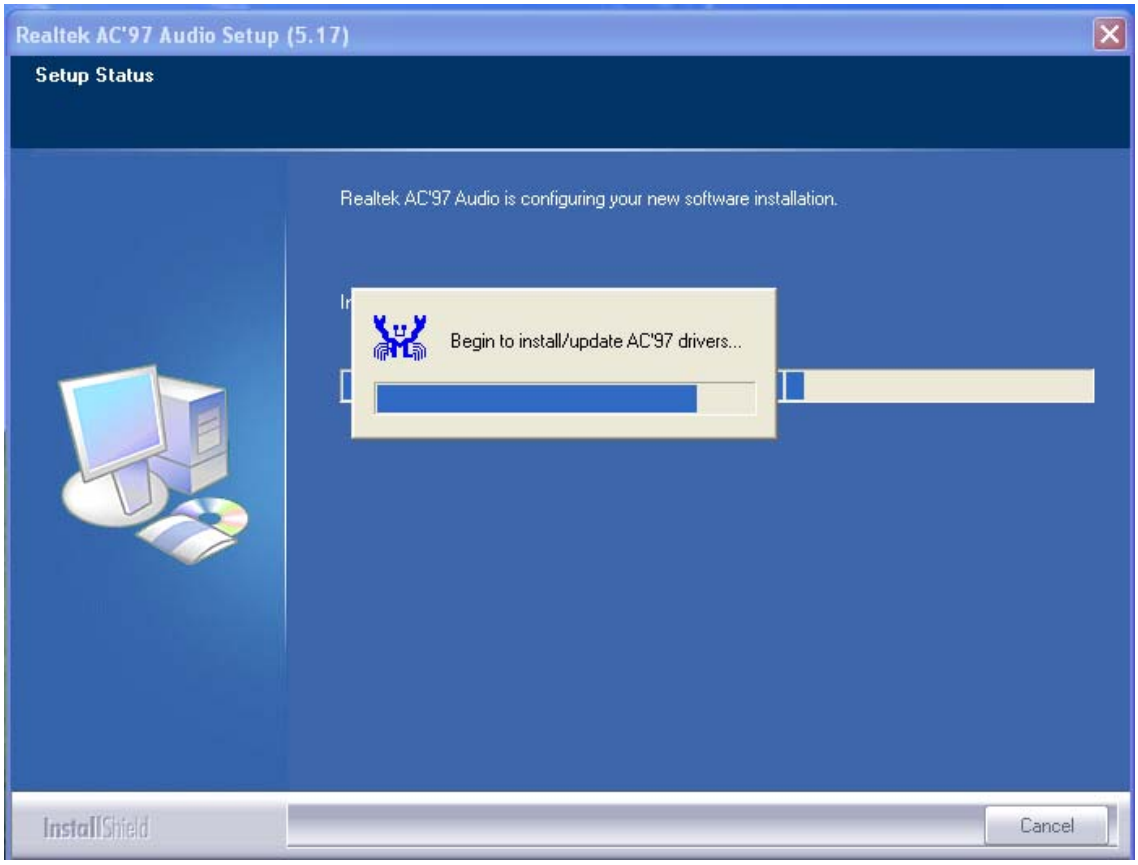
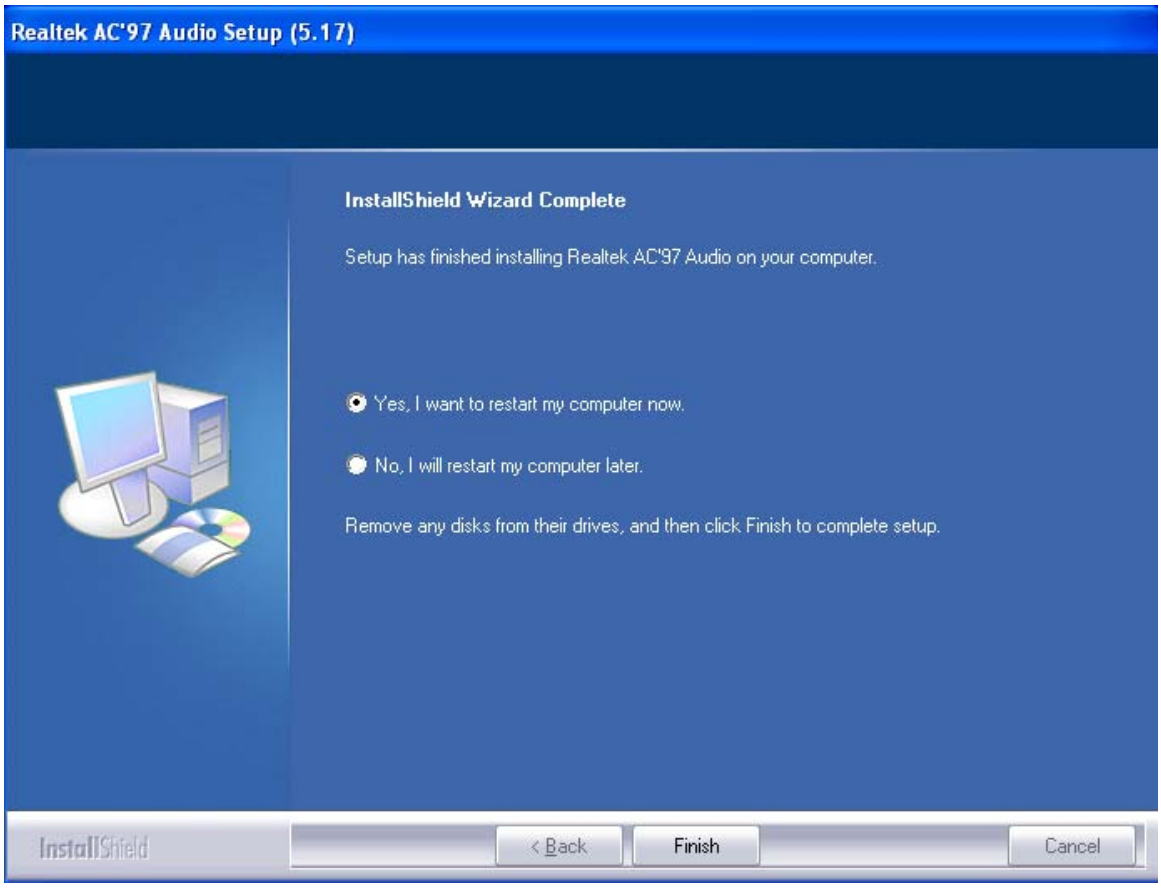
Step 4. When the Welcome screen appears, click "**Next**" to continue.



Step 5 Setup status







Setp 6. Click **“Finish”** , The Setup process is now complete.