User Manual

December 2010 Revision 1.2

POSEO 5200

Hardware System

Manual Version 1.2

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TRADEMARK
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Safety

IMPORTANT SAFETY INSTRUCTIONS

1. To disconnect the machine from the electrial power supply, turn off the power switch and remove the power cord plug from the wall socket. The wall socket must be easily accessible and in close proximity to the machine.
2. Read these instructions carefully. Save these instructions for future reference.
3. Follow all warnings and instructions marked on the product.
4. Do not use this product near water.
5. Do not place this product on an unstable cart,stand,or table.The product may fall, causing serious damage to the product.
6. Slots and openings in the cabinet and the back or bottom are provided for ventilation;to ensure reliable operation of the product and to protect it from overheating. These openings must not be blocked or covered.The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface.This product should never be placed near or over a radiator or heat register,or in a built-in installation unless proper ventilation is provided.
7. This product should be operated from the type of power indicated on the marking label.If you are not sure of the type of power available, consult your dealer or local power company.
8. Do not allow anything to rest on the power cord. Do not locate this product where persons will walk on the cord.
9. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

CE MARK

This device complies with the requirements of the EEC directive 2004/108/EC with regard to “Electromagnetic compatibility” and 2006/95/EC “Low Voltage Directive”.

FCC

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

(1) This device may not cause harmful interference.

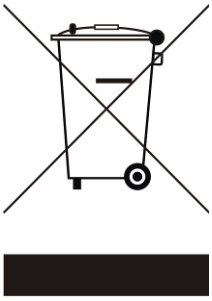
(2) This device must accept any interference received, including interference that may cause undesired operation.

CAUTION ON LITHIUM BATTERIES

There is a danger of explosion if the battery is replaced incorrectly. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer’s instructions.

LEGISLATION AND WEEE SYMBOL

2002/96/EC Waste Electrical and Electronic Equipment Directive on the treatment, collection, recycling and disposal of electric and electronic devices and their components.



The crossed dustbin symbol on the device means that it should not be disposed of with other household wastes at the end of its working life. Instead, the device should be taken to the waste collection centers for activation of the treatment, collection, recycling and disposal procedure.
To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract.

This product should not be mixed with other commercial wastes for disposal.

Revision History

Revision Number	Description	Revision Date
1.0	• Initial release	2008 August
1.1	• Updated specifications • Updated motherboard drawing • Added Appendix B: Dimensional Drawings • Moved BIOS Error Codes to Appendix C	2010 April
1.2	• Updated Ch. 1, Packing List • Updated Ch. 3, Driver Installation • New Ch. 4, Setting up RAID • Updated Ch. 5, Hardware Status Display • Updated Ch. 7, Specification • Updated Ch. 9, BIOS Settings	2010 December

Table of Contents

1. Packing List

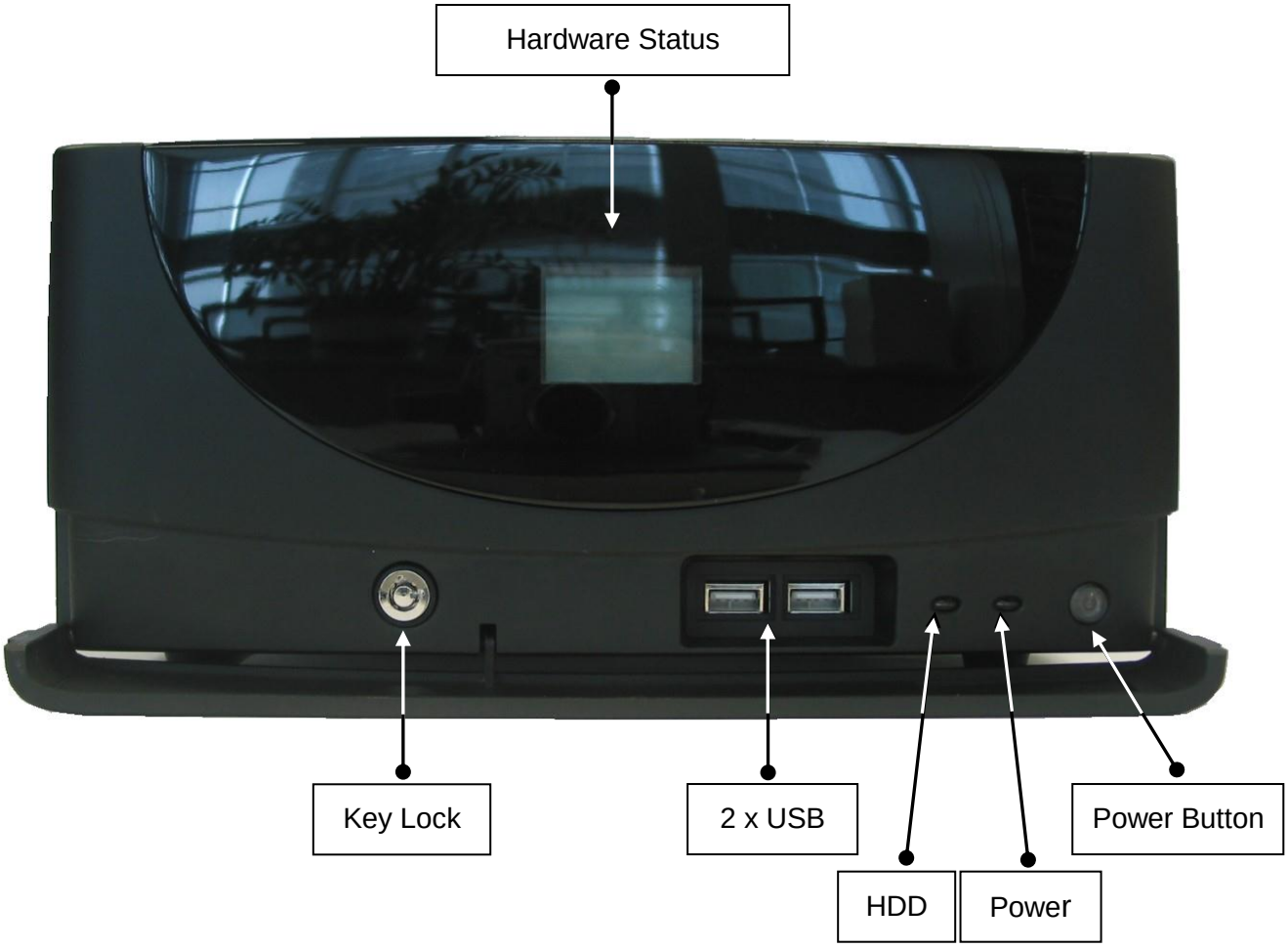
Take the system unit out of the carton. Remove the unit from the carton by holding it by the foam inserts. The following contents should be found in the carton:

a. System

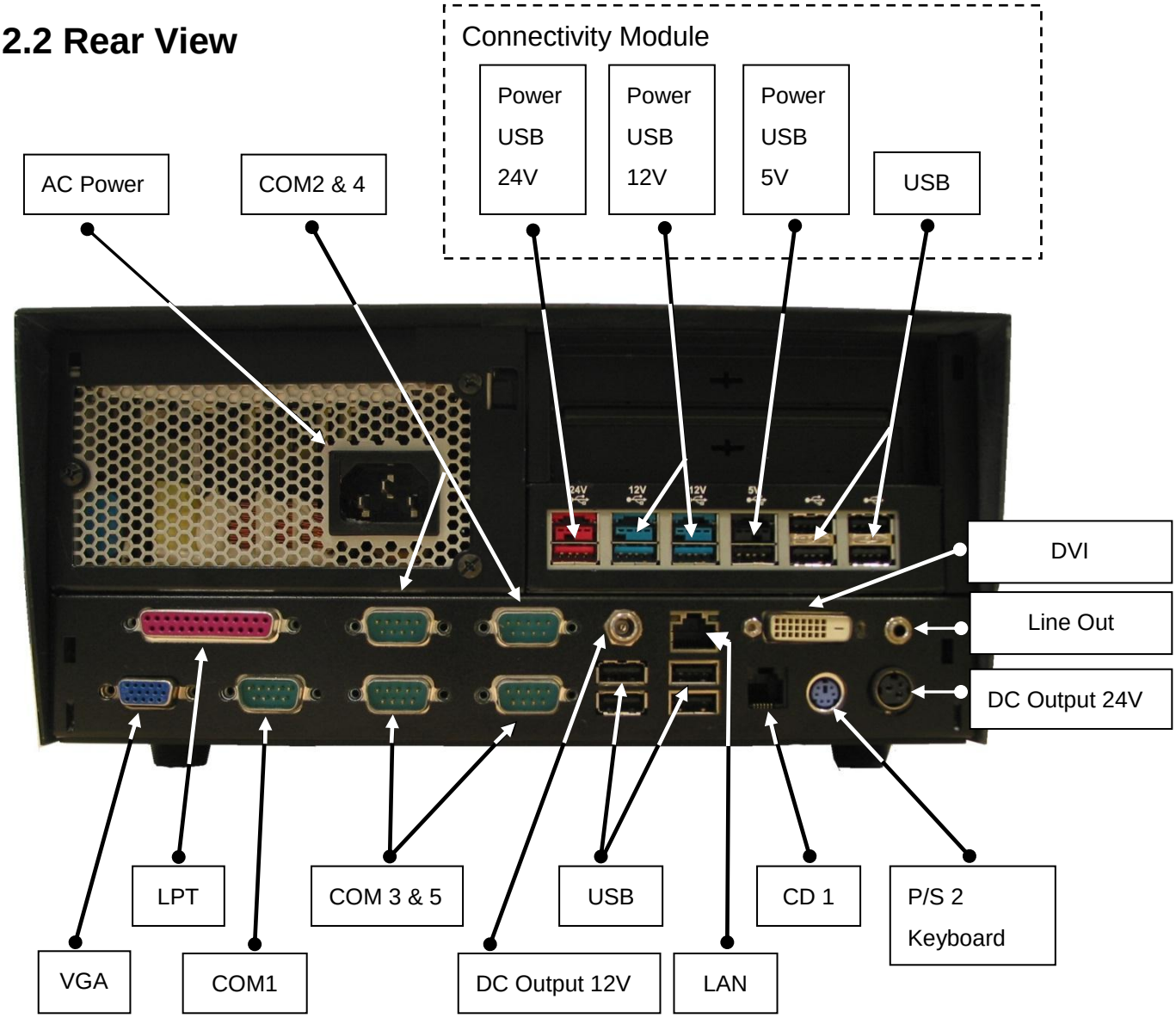
b. Power Cable

2. System View

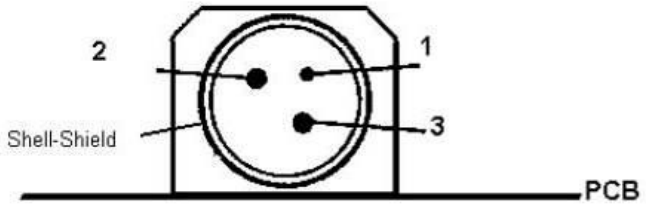
2.1 Front View



2.2 Rear View



Note: The maximum current that can be drawn from each COM port is 500 mA.



Pin	Assignment
1	NC
2	+ 24V DC
3	Ground

DC output 24 V Pin Assignment

3. Driver Installation

3.1 Driver Download

To download the most recent drivers and utilities, and obtain advice regarding the installation of your equipment, please visit the AURES Technical Support Website:
www.aures-support.fr (French)
www.aures-support.fr/UK (English)
www.aures-support.fr/GE (German)

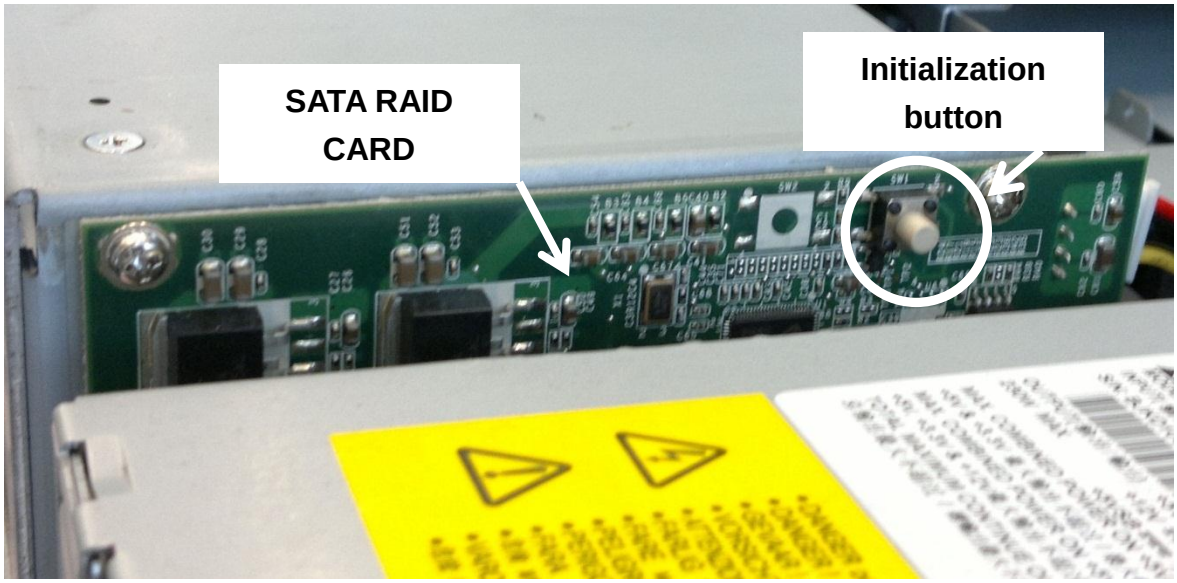
3.2 Driver List

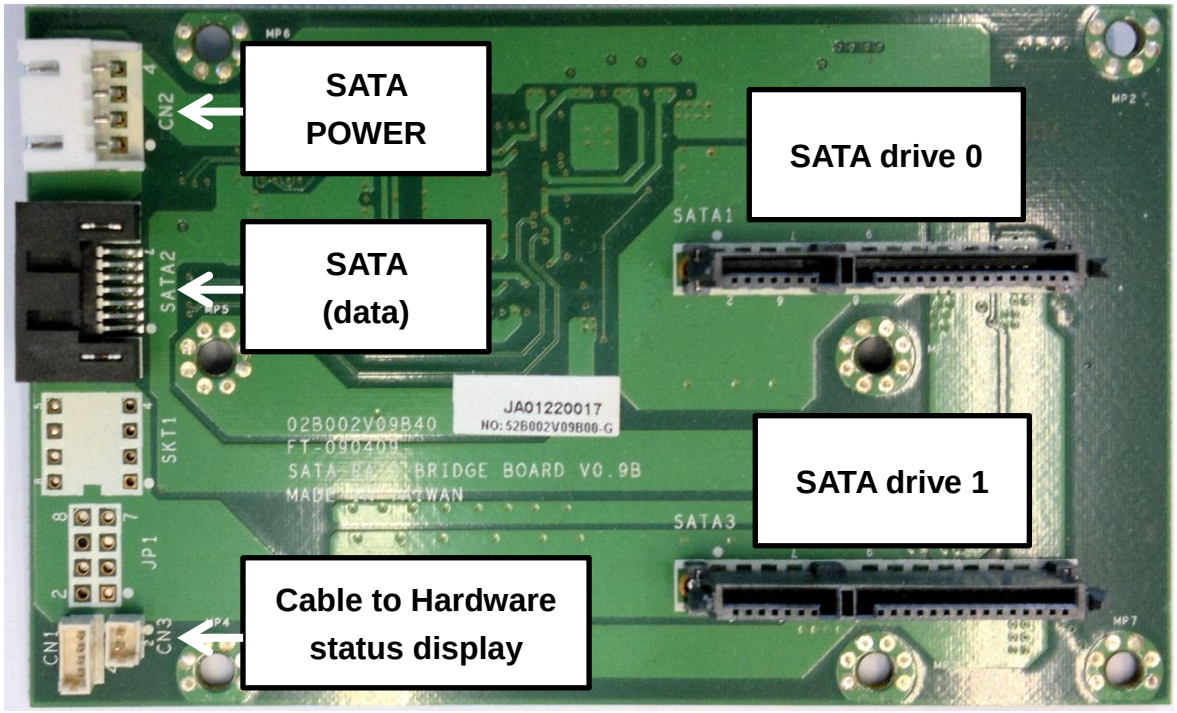
Folder\File	File Description
<CD>:\Poseo5200.htm	POSEO 5200 Driver List
<CD>:\Common\Intel\Chipset\i9xx	Chipset Driver
<CD>:\Common\Intel\VGA\i94x	VGA Driver
<CD>:\Common\Intel\AHCI(POSEO_5200)\POSEO 5200_WinXP_AHCI_(F6)	(F6) SATA AHCI Driver
<CD>:\Common\Intel\AHCI(POSEO_5200)\POSEO 5200_Update_WinXP_to_AHCI\v6.2.1	SATA AHCI Driver to add AHCI support to existing Windows XP installation
<CD>:\ Common\AC97_Codec\Realtek\ALC202A	Audio Driver
<CD>:\ Common\Lan_driver\Realtek_PCI	LAN Driver
<CD>:\Common\HardwareStatusMonitor\	Hardware and RAID status monitoring utility

Detailed driver installation instructions are included on the driver CD.

4. Setting up RAID

The POSEO 5200 is equipped with a hardware RAID 1 card that handle all RAID operations automatically. The RAID card is located at the back of the HDD enclosure:





IMPORTANT NOTE**: the SATA RAID card does not support using two HDDs independently. If two HDDs are mounted into the system, they will always works as a RAID 1 system.**

4.1. Initialization

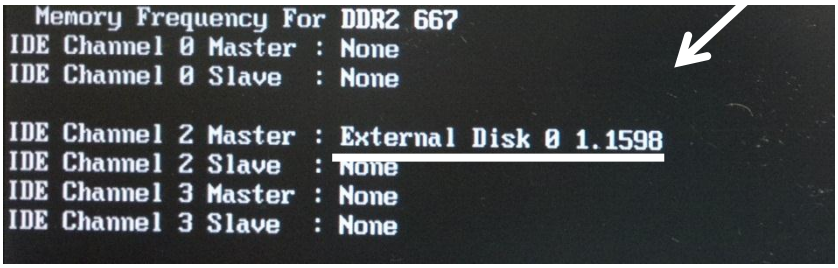
The RAID card must identify the HDD before this HDD can be used by the system. This initialization can be done with one HDD in the system, or with two HDDs simultaneously. The initialization **must** be done in the following circumstances:

- One or two new HDDs are inserted into the POSEO 5200 for the first time (new HDD)
- If you swap HDD0 and HDD1
- One or two HDDs are transferred from another POSEO 5200

If the POSEO 5200 already has one HDD that has been initialized previously, it is not necessary to initialize again if you add a second HDD.

To initialize the HDD(s), proceed as follows:

1. Insert one or two HDDs into the HDD slots of the POSEO 5200
2. Power on the system.
3. As soon as the system has beeped, press the initialization button for one second.
4. Verify that the RAID board has detected the HDDs successfully.
   The system will show that an 'External Disk' is connected to the system



4.2. Driver and BIOS requirements

For full support of all the RAID functionality, including hot swap, your HDDs must work in AHCI mode. By default, the HDDs on the POSEO 5200 will run in IDE mode. Although the RAID card also works in IDE mode, correct working is only guaranteed in AHCI mode.

To set the HDD drives to AHCI, it is necessary to:

1. Set AHCI mode in the BIOS
2. Use an operating system that supports AHCI

- Windows XP does not have native support for AHCI and requires an AHCI driver to be provided during the installation of Windows XP.
- Windows Vista and Windows 7 have native support for AHCI. It is not necessary to

install any additional drivers to use your HDDs in AHCI mode

- Linux supports AHCI from kernel 2.6.19 onwards.

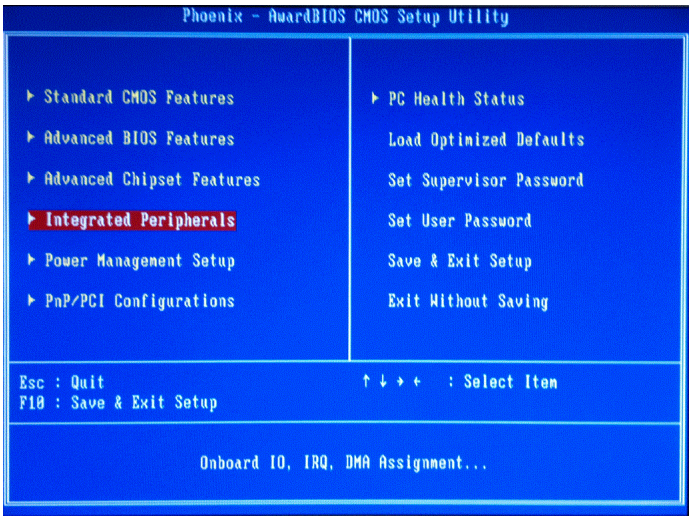
4.3. BIOS Setting

You must set the HDD to AHCI mode before installing an operating system.

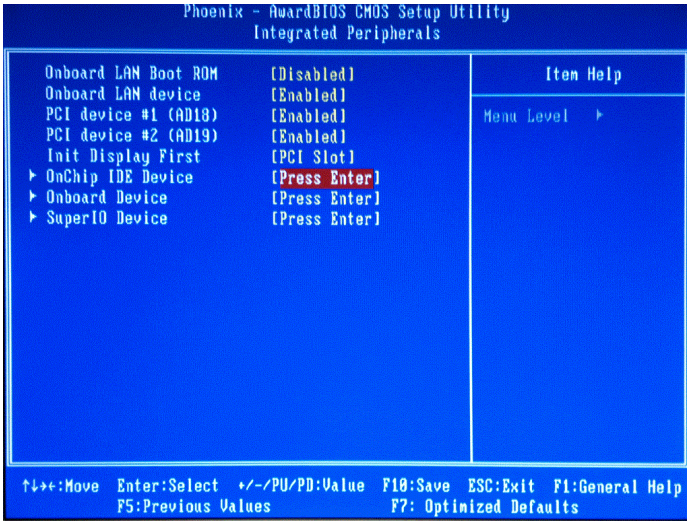
To set the HDD mode to AHCI proceed as follows:

1. Enter the BIOS Setup by pressing the DEL key repeatedly after powering on the system.

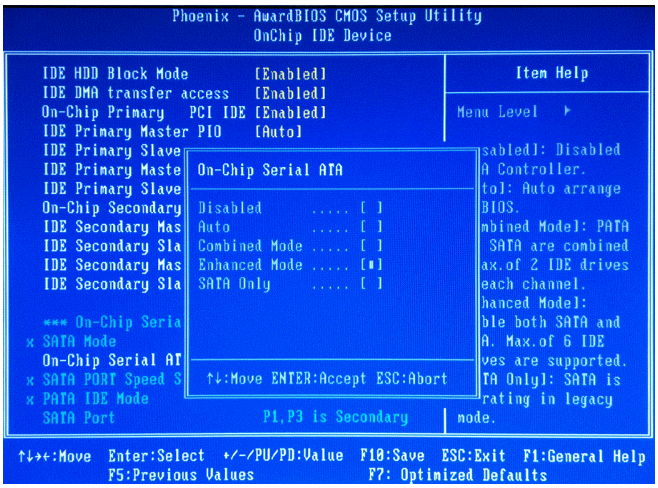
2. Select **Integrated Peripherals**



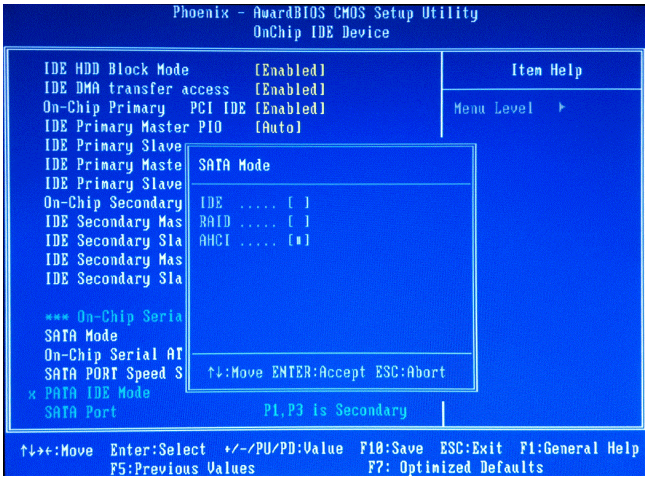
3. Select **OnChip IDE Device**



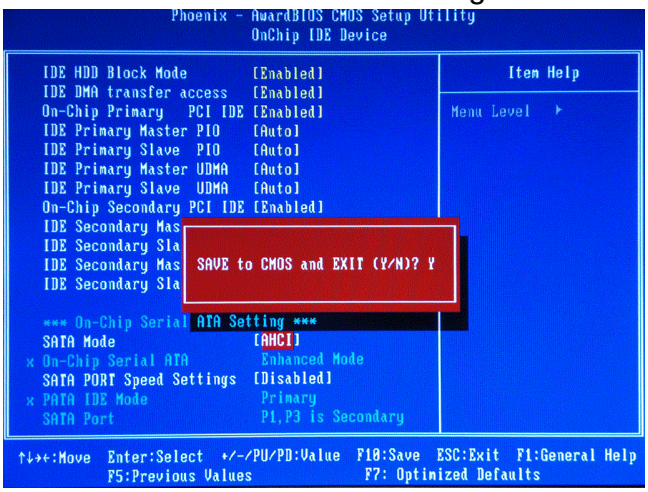
4. In **On-CHIP Serial ATA**, select **Enhance Mode**



5. In **SATA Mode**, select **AHCI**



6. Press **F10** to save the new settings and reboot



4.3. SATA AHCI driver installation

A SATA AHCI driver is only needed if you wish to install Windows XP on the POSEO 5200. Vista, Windows 7 and Linux (from kernel 2.6.19 onwards) have native support for AHCI, and do not require an additional driver.

For Windows XP, there are two methods to install an AHCI driver:

a. At the beginning of a Windows XP installation (the so-called F6 method)
b. Update an existing Windows XP installation to AHCI.

4.3.1 Installing the AHCI driver with the F6 method

IMPORTANT NOTE: the F6 method requires a USB FDD drive which is compatible with the Windows XP installation program. Currently (2010), there are very few compatible USB FDDs still available in the market, and you may not be able to use this method.
If you are unable to use the F6 method, please refer to the next chapter **4.3.2 Updating an existing Windows XP installation to AHCI**.

4.3.1.1. Create a F6 driver disk

Connect a USB-FDD to a PC, then follow below steps to make a SATA RAID Driver floppy disk.

Run the F6 driver creation utility
<CD>:\Common\Intel\AHCI(POSEO_5200)\POSEO5200_WinXP_AHCI_(F6)\V5.5\F6flpy32.exe
This will install the driver files onto the floppy disk.

4.3.1.2. F6 driver installation

Boot the system from the Windows XP installation disk

1. Press the **F6** key when prompted in the status line with the *Press F6 if you need to install a third party SCSI or RAID driver* message. This message appears at the beginning of Windows XP setup (during text-mode phase). **Note:** Nothing will happen immediately after pressing F6. Setup will temporarily continue loading drivers. You will then be prompted with a screen asking you to load support for mass storage device(s).

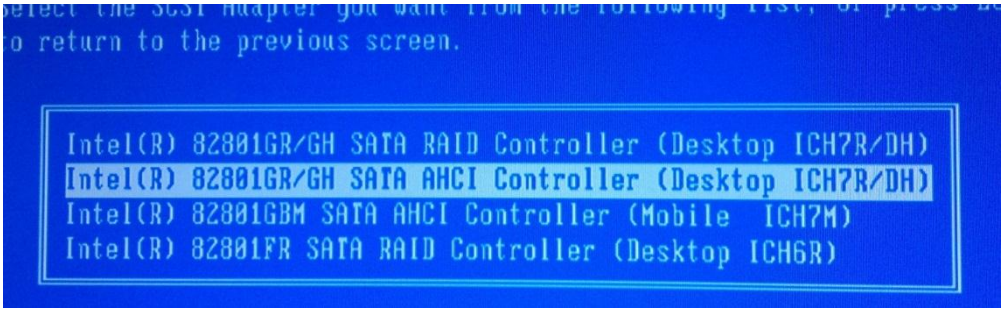
2. Press the **S** key to **Specify Additional Device**.

3. You will be prompted to *Please insert the disk labeled Manufacturer-supplied*

hardware support disk into Drive A: When prompted, insert the floppy disk containing the following files: IAAHCI.INF, IAAHCI.CAT, IASTOR.INF, IASTOR.CAT, IASTOR.SYS, and TXTSETUP.OEM and press the **Enter** key.

4. After pressing Enter, you should be presented with a list of available controllers. Select your controller from the list. The up and down arrow keys can be used to scroll through the list as all controllers may not be visible.

5. Select **Intel® 82801GR/GH SATA AHCI Controller (Desktop ICH7R/DH)** and press Enter

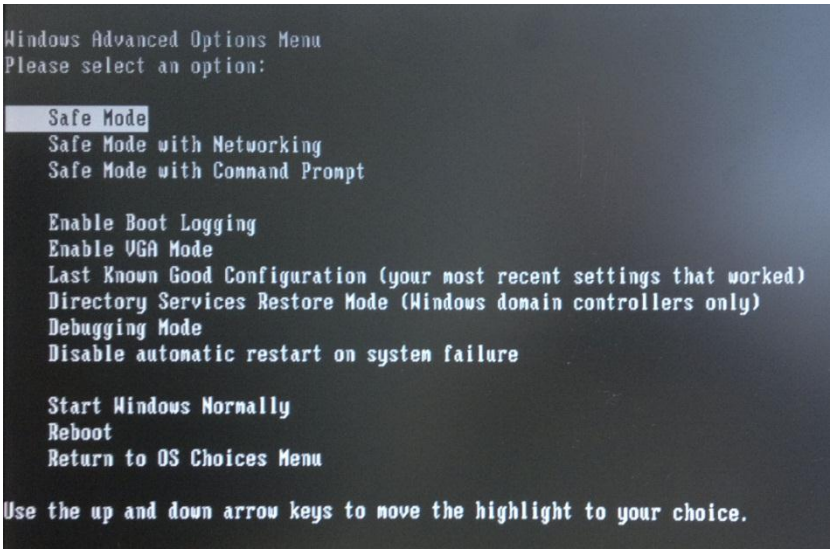


6. At this point, you have successfully F6'ed in the Intel® Matrix Storage Manager driver and Windows setup should continue. Leave the floppy disk in the floppy drive until the system reboots. Windows setup will need to copy the files from the floppy again to the Windows installation folders. Once Windows setup has copied these files again, you should then remove the floppy diskette so that Windows setup can reboot as needed.

4.3.2 Updating an existing Windows XP installation to AHCI

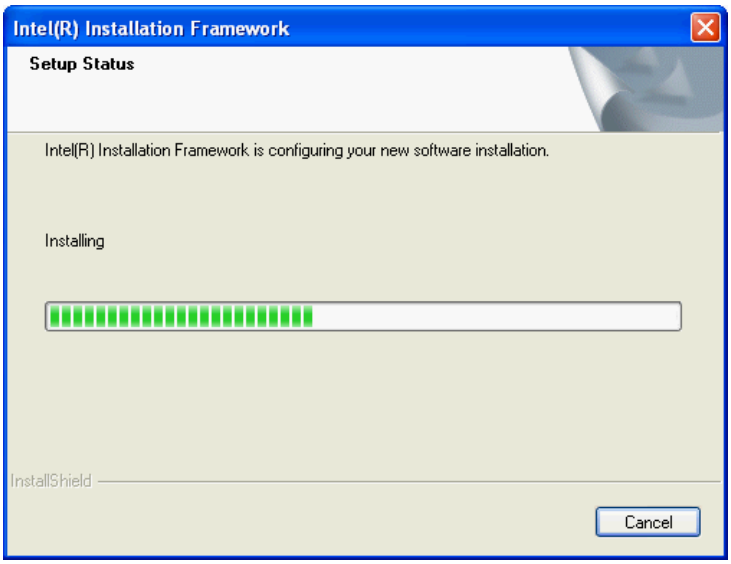
You can use the method described below if you wish to update an existing Windows XP installation to AHCI mode, or if you can not use the F6 method described in chapter 4.3.1.

1. Start the POSEO 5200 in **safe mode**: power on the system, and press F8 several times, until the Windows Advanced Options menu appears.
   Select **Safe Mode**, and press **Enter**.

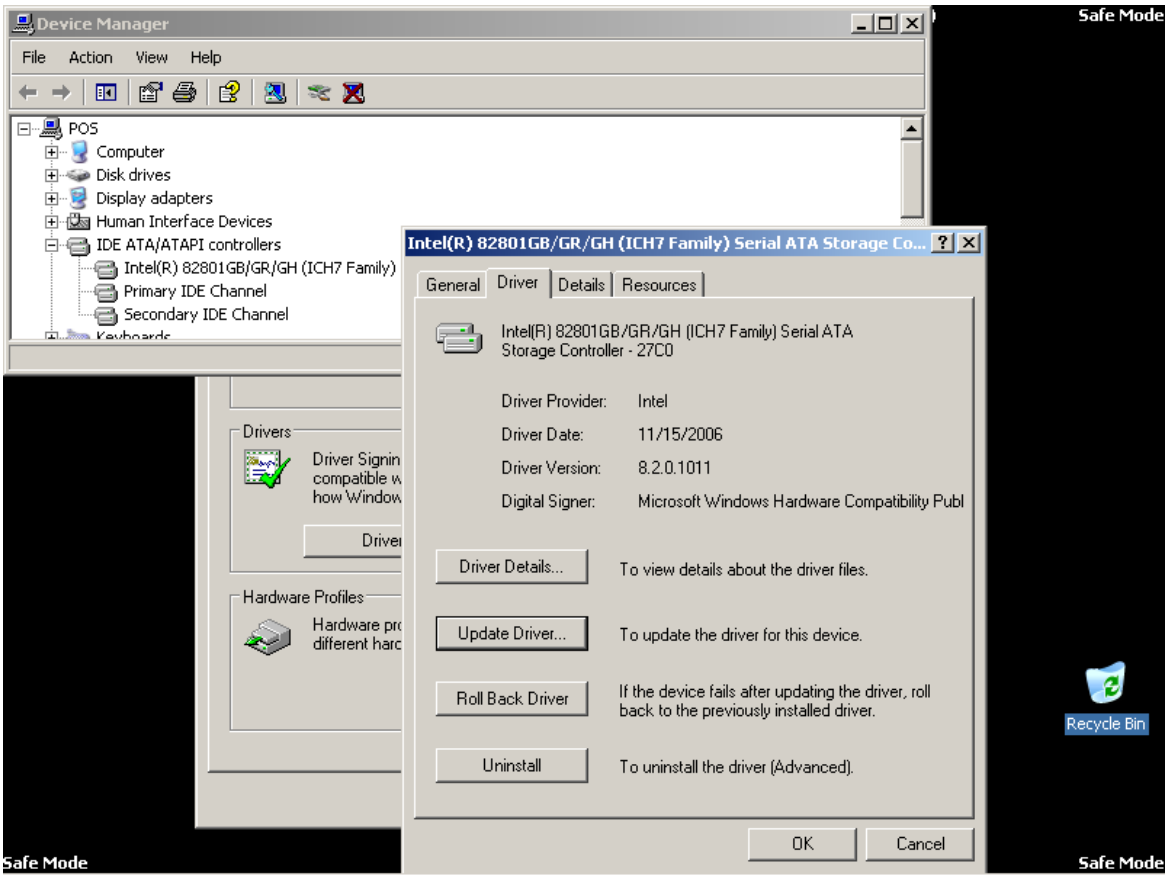


2. Insert the driver CD into a CD or DVD drive connected to the POSEO 5200.
   Click the **Start** button, select **Run…**, and run the command
   <CD>:\Common\Intel\AHCI(POSEO_5200)\POSEO5200_Update_WinXP_to_AHCI\v6.2.1\iata621_cd.exe –A

   NOTE:
   The parameter **–A** extracts the files to '**C:\Program Files\Intel\Intel Matrix Storage Manager\Driver**'

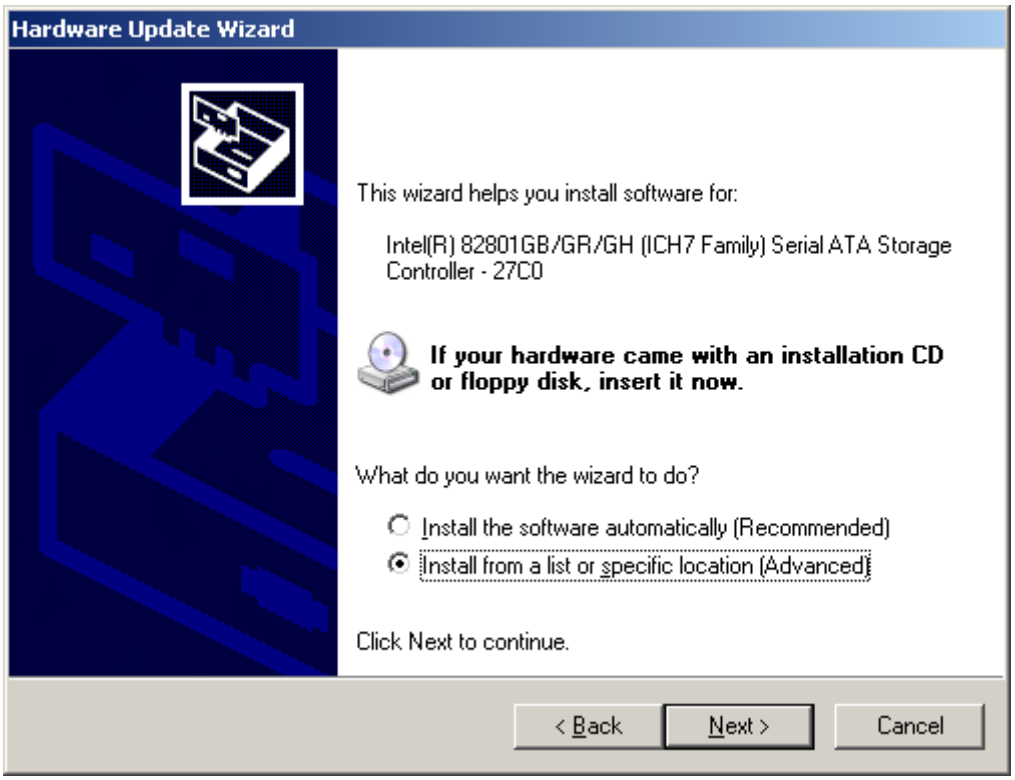


3. Open the **Device Manager**, double click on the **IDE ATA/ATAPI controllers** – Right-click **Intel(R) 82801GB/GR/GH (ICH7 Family) Serial ATA**, choose the **Driver** tab, then click the **Update Driver** button.

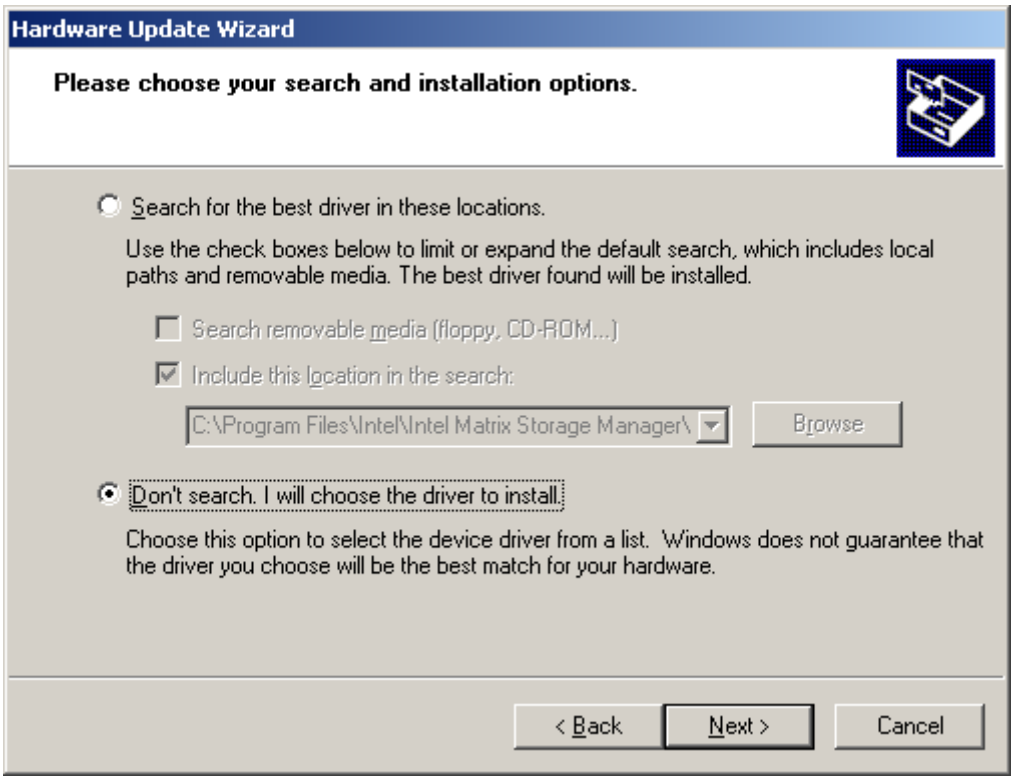


4. Choose **No, not this time** then click the **Next** button.

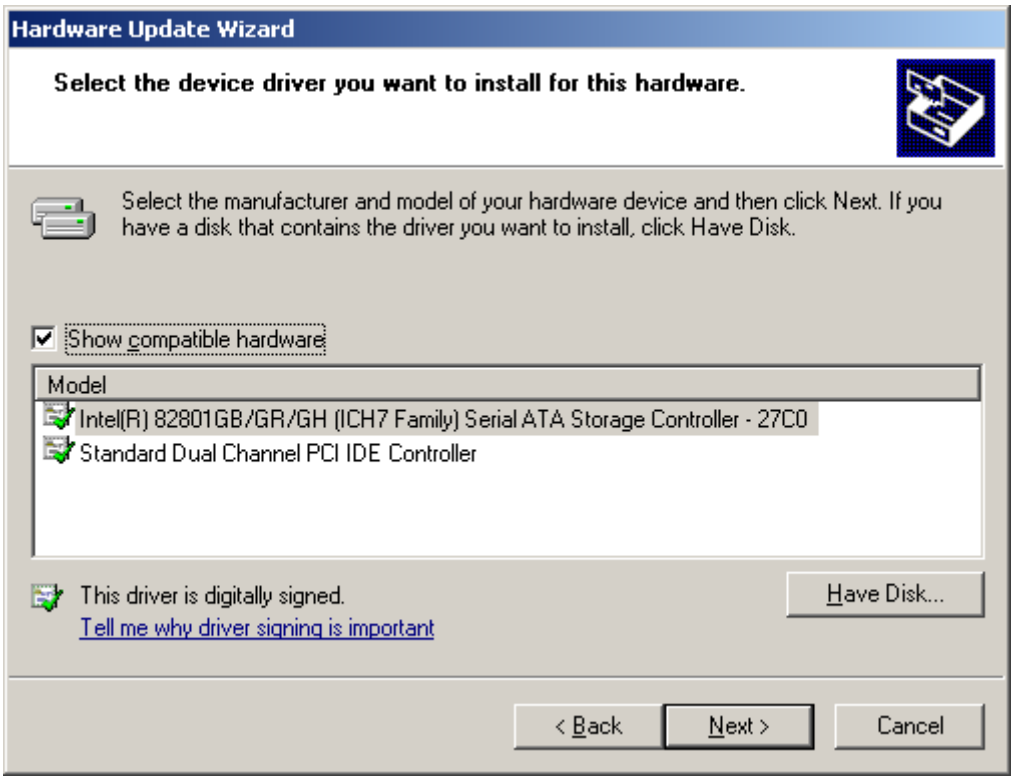
5. Choose **Install from a list or specific location (Advanced)** then click **Next**.



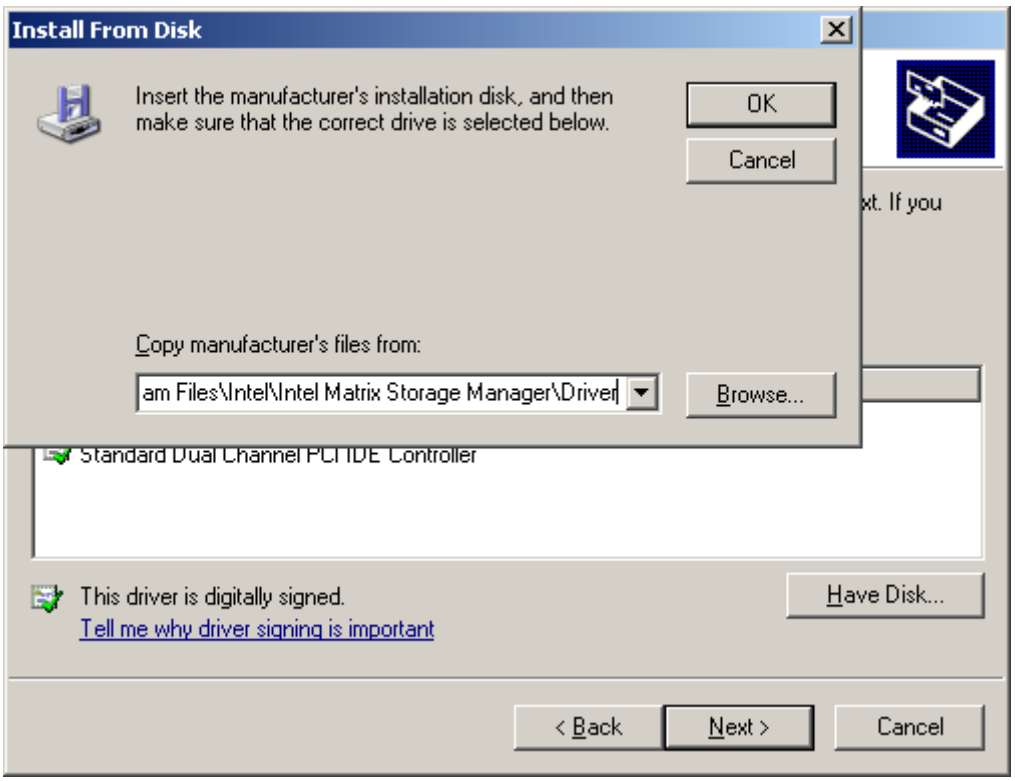
6. Choose **Don't search. I will choose the driver to install.**, then click **Next**.



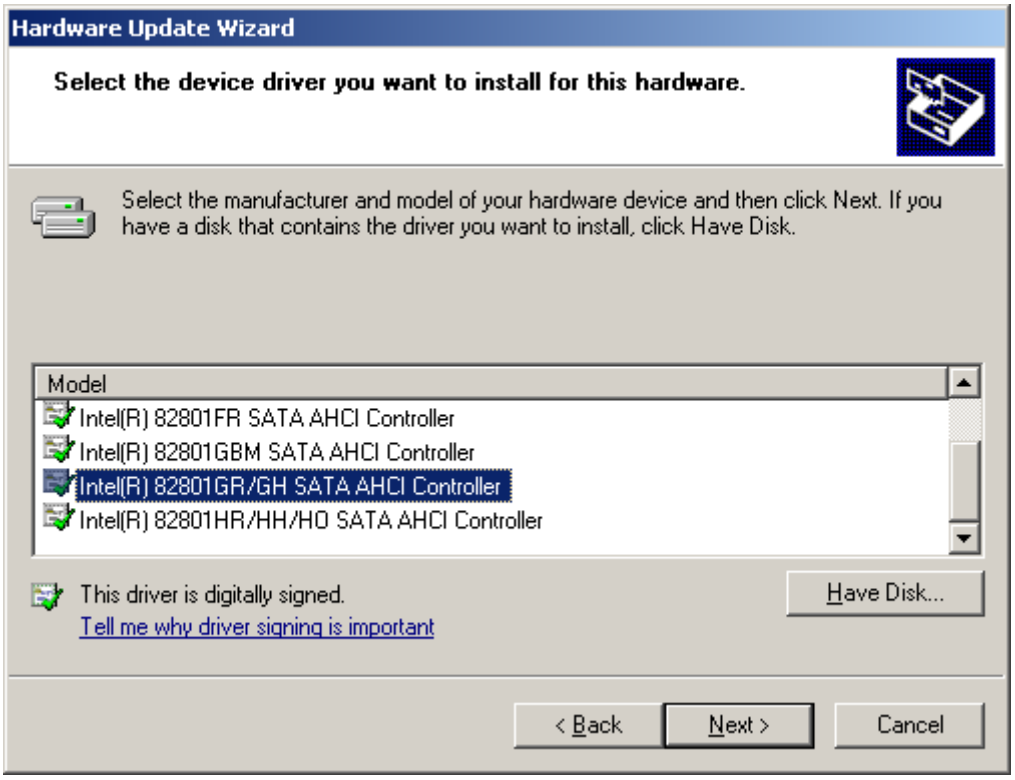
7. Click **Have Disk**.



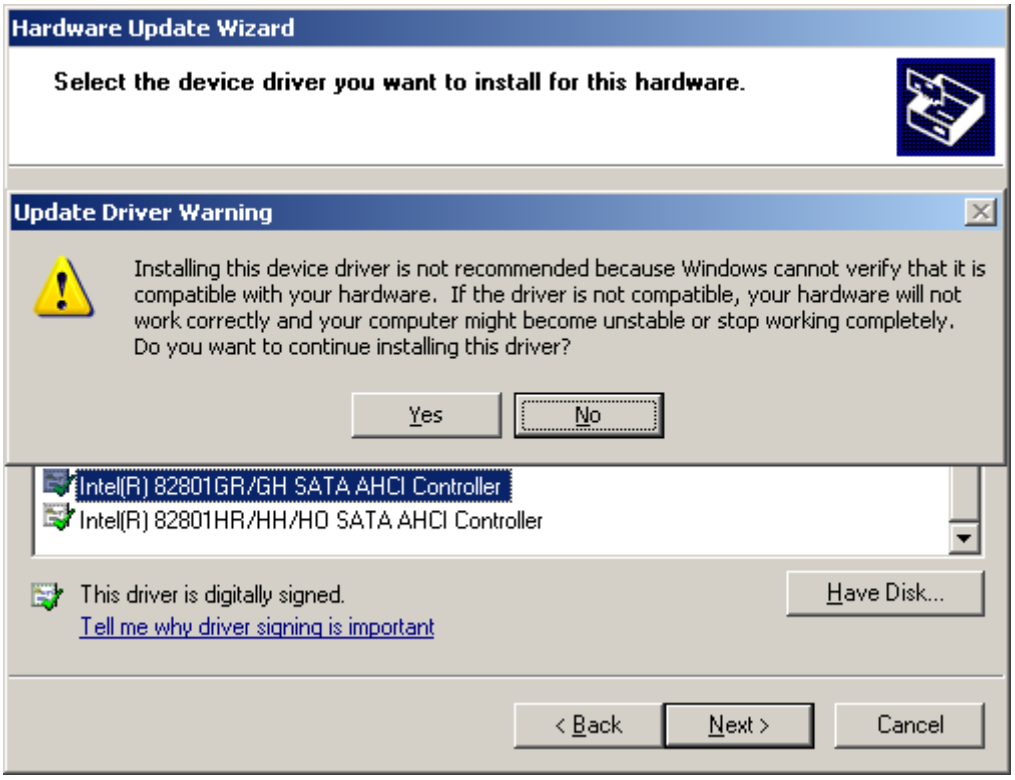
8. Click the **Browse...** button, select **C:\Program Files\Intel\Intel Matrix Storage Manager\Driver** then click OK.



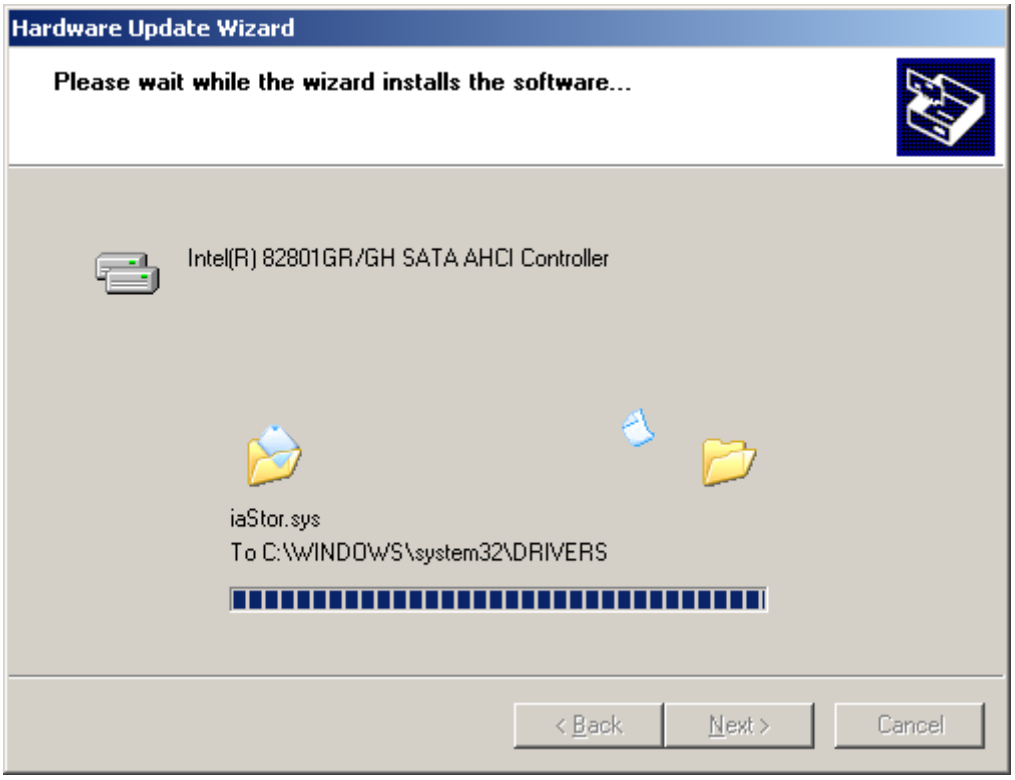
9. Choose **Intel(R) 82801GR/GH SATA AHCI Controller** and click **Next**.



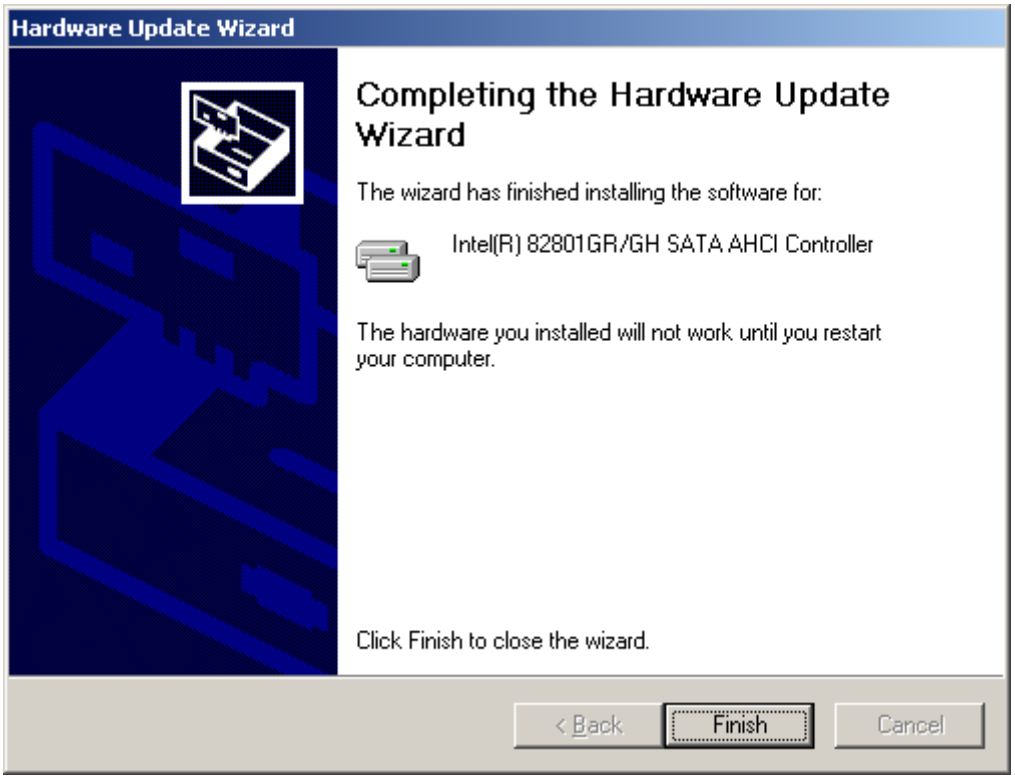
10. Click **Yes**.



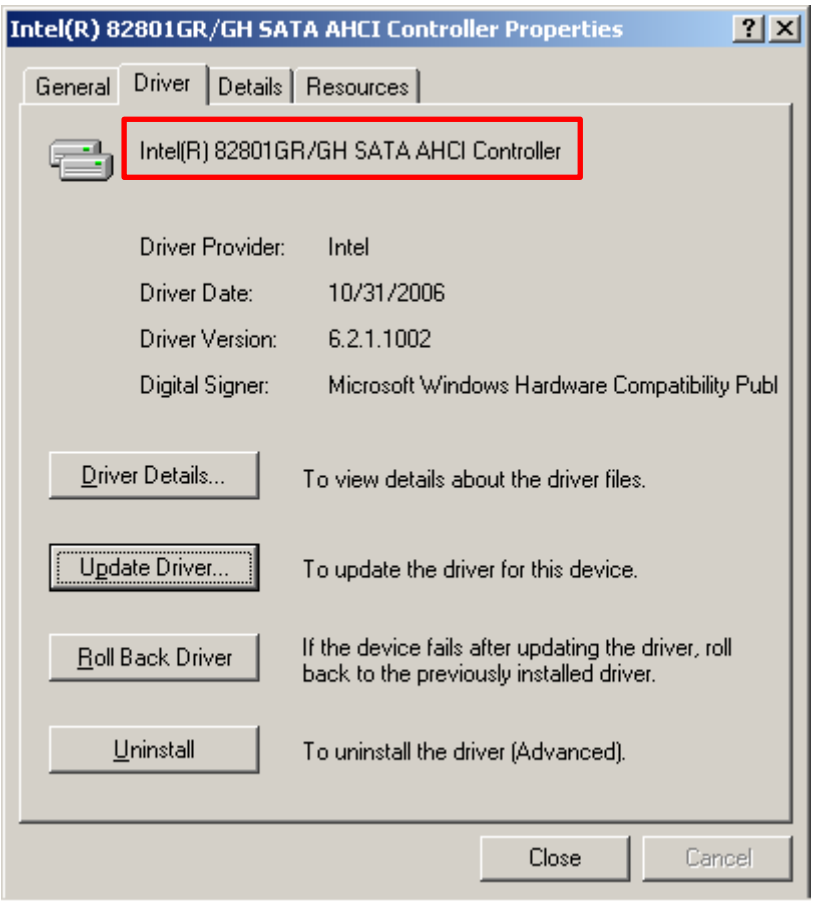
11. Driver is installed…



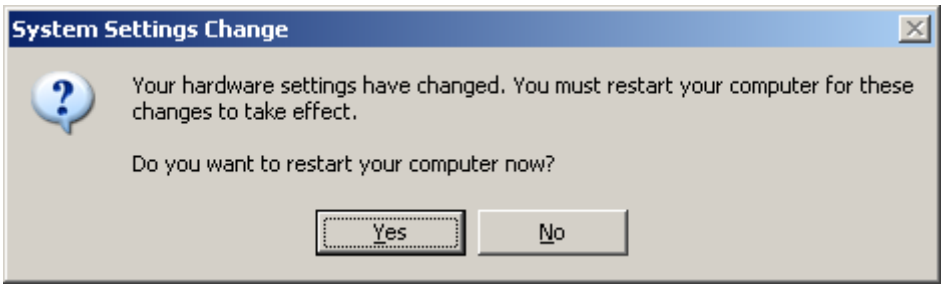
12. Click **Finish**.



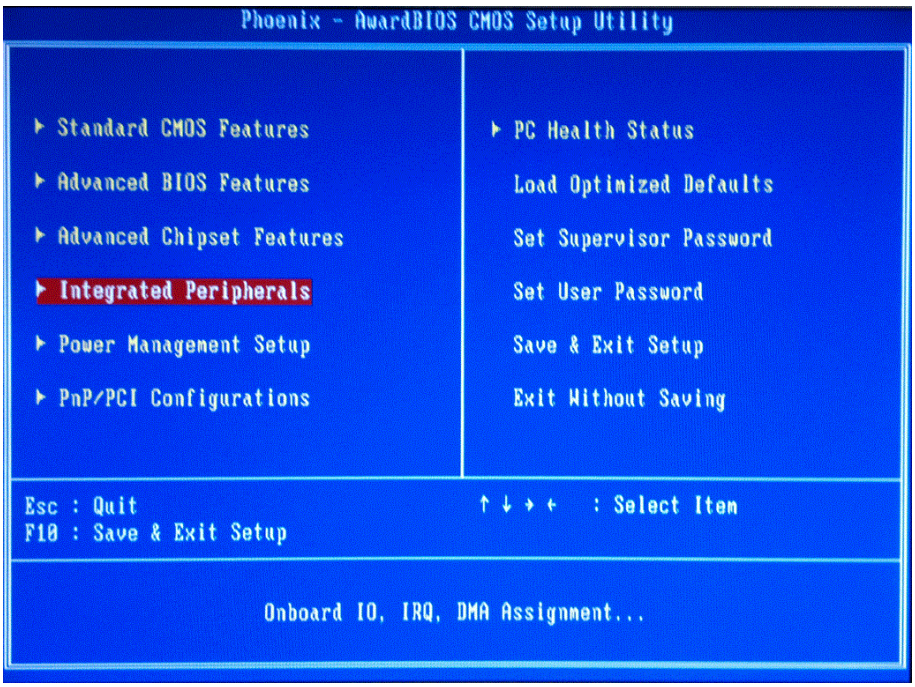
13. The driver has been updated to **Intel(R) 82801GR/GH SATA AHCI Controller**. Click **Close**.



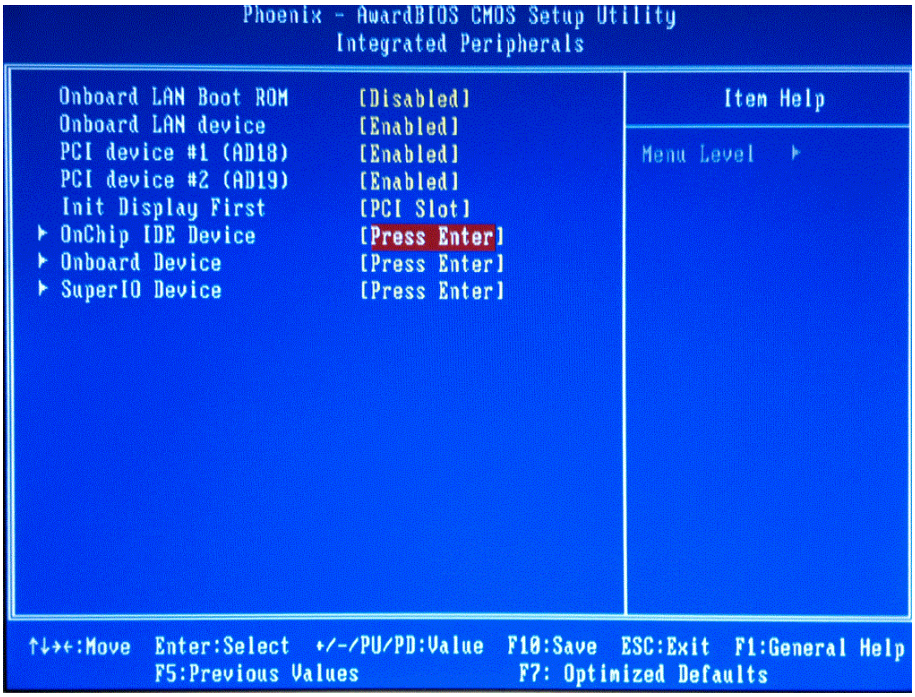
14. Click **Yes** to reboot the system.



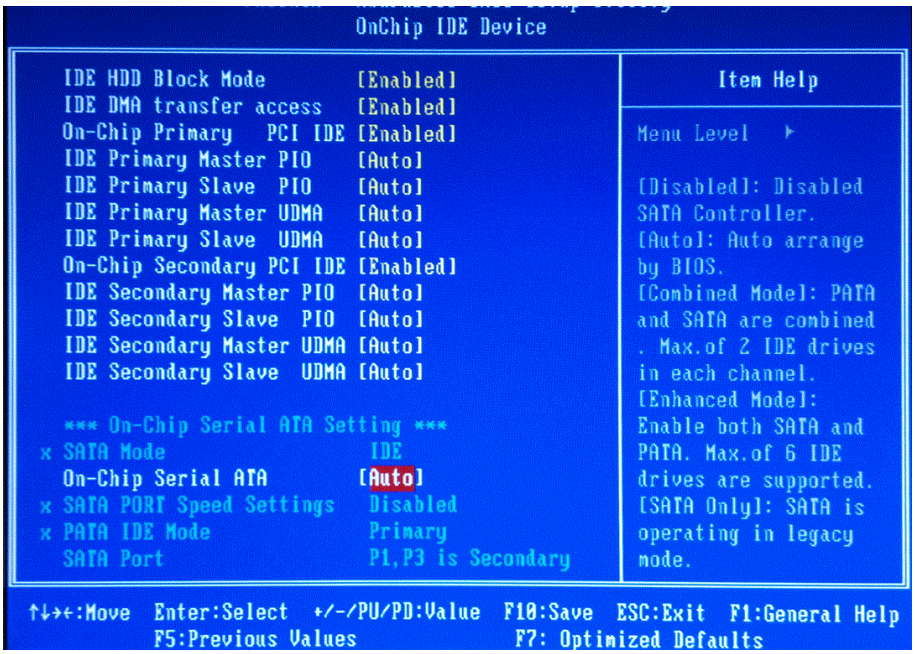
15. Go into the **BIOS Setup** utility by pressing repeatedly on the **DEL** key. Select **Integrated Peripherals** and press **Enter.**



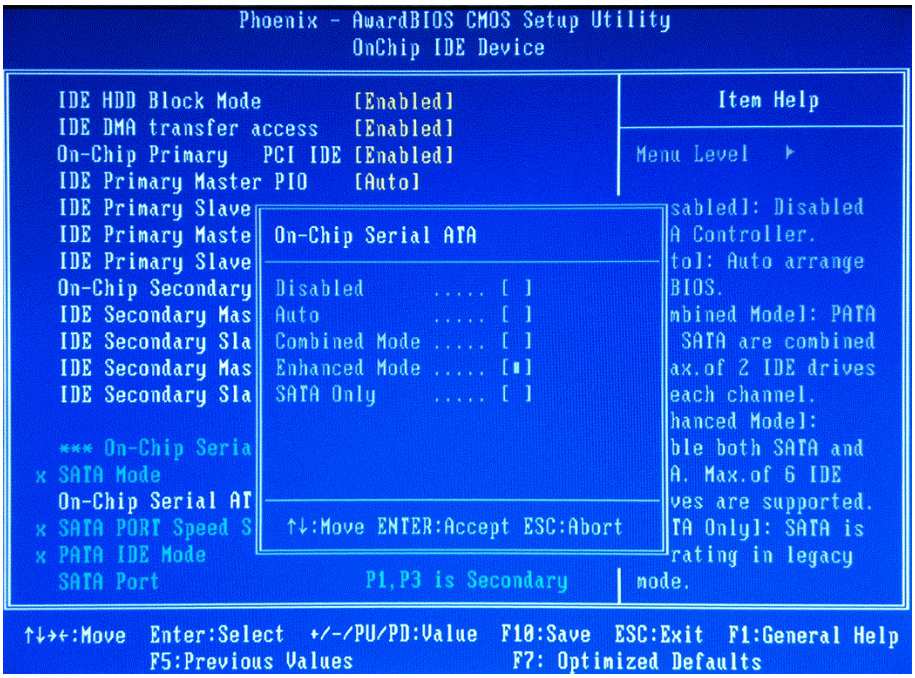
16. Select **OnChip IDE Device** and press **Enter.**



17. Select **On-Chip Serial ATA** and press **Enter**.

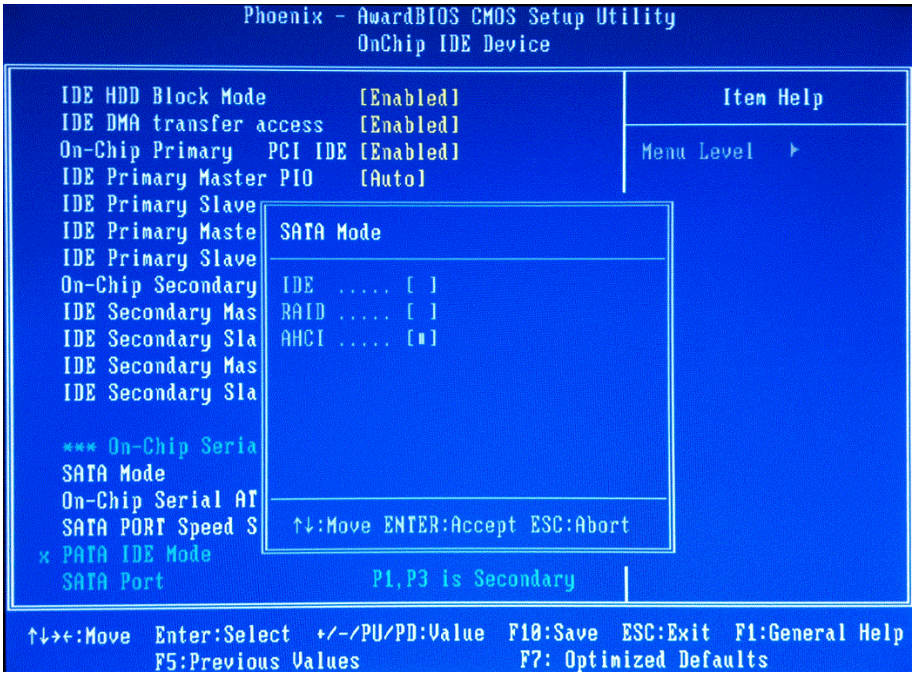


18. Select **Enhanced Mode** and press **Enter**.

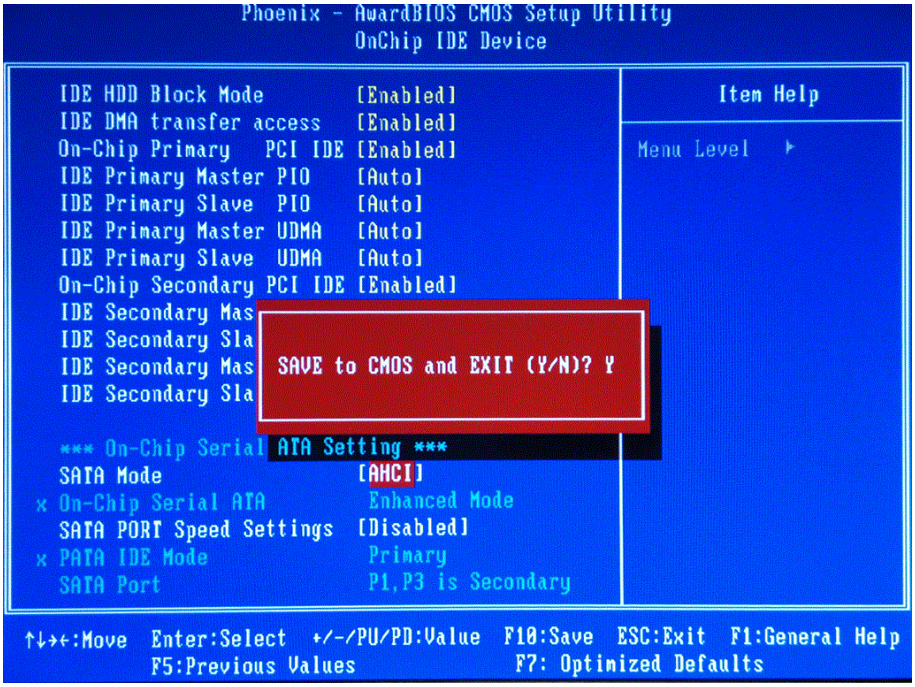


19. Select **SATA Mode** and press **Enter**.

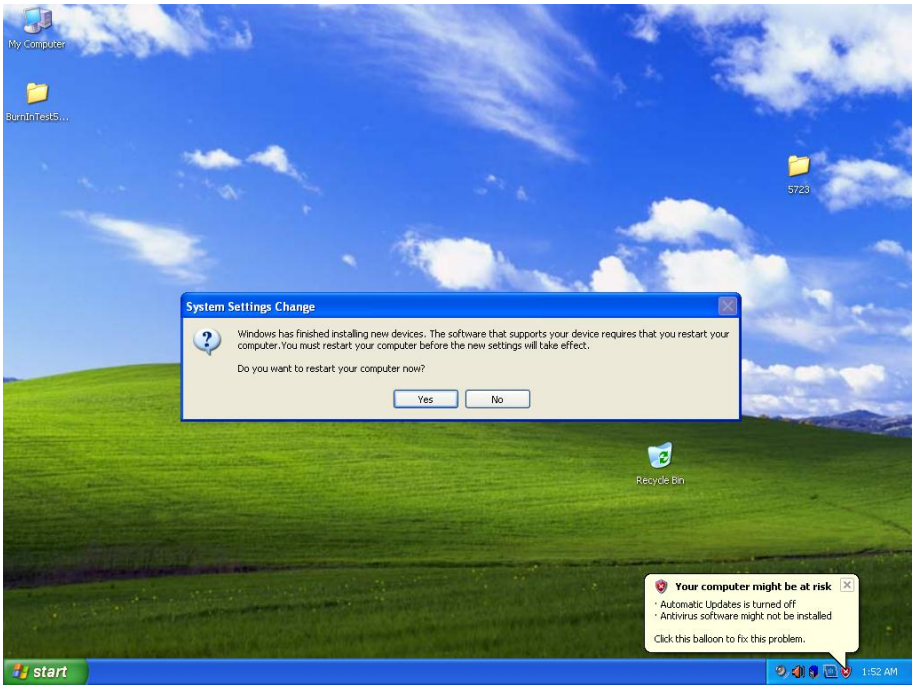
Select **AHCI** and press **Enter**.



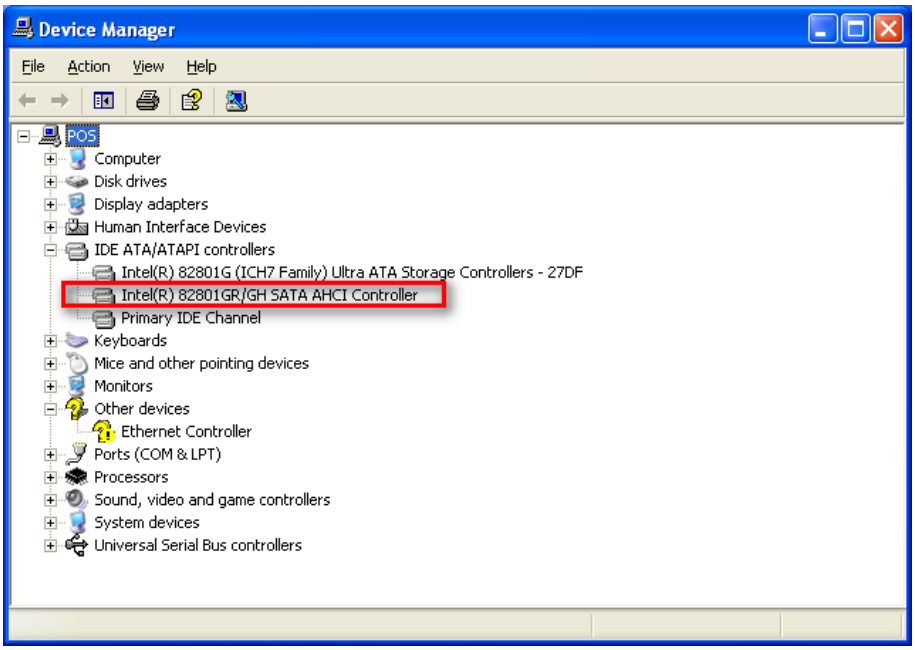
20. Press **F10**, followed by Y and **Enter** to save the settings and restart the system.



21. Windows will find new hardware and install the driver, after which you have to reboot again. Click **Yes**.



22. You can verify that the SATA AHCI has been installed in the **Device Manager**.



5. Peripherals Installation

5.1. Cash Drawer Installation

You can install a cash drawer through the Cash Drawer port. Please verify the pin assignment before installation.

5.1.1. Cash Drawer Pin Assignment

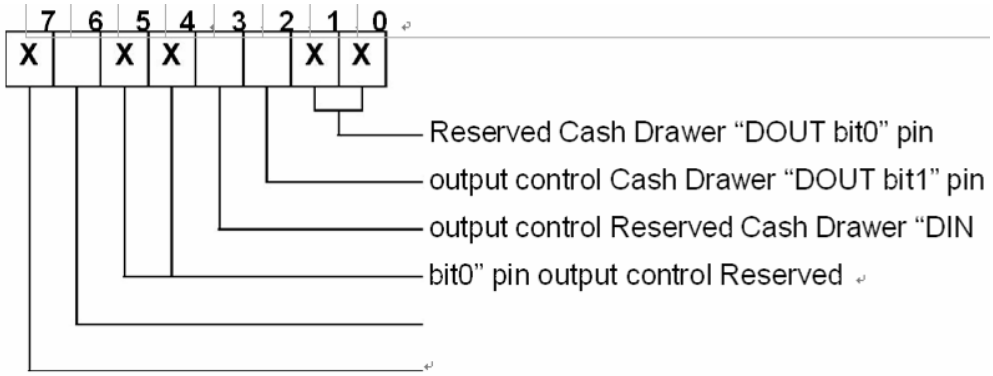
Pin	Signal
1	GND
2	DOUT bit0
3	DIN bit0
4	12V/24V
5	DOUT bit1
6	GND

5.1.2. Cash Drawer Controller Register

The Cash Drawer Controller use one I/O address to control the Cash Drawer. Register Location: 48Ch

Attribute: Read / Write

Size: 8 bits



Bit 7: Reserved

Bit 6: Cash Drawer "DIN bit0" pin input status.

= 1: the Cash Drawer closed or no Cash Drawer

= 0: the Cash Drawer is open

Bit 5: Reserved

Bit 4: Reserved

Bit 3: Cash Drawer “DOUT bit1” pin output control.

= 1: Opening the Cash Drawer

= 0: Allow close the Cash Drawer

Bit 2: Cash Drawer “DOUT bit0” pin output control.

= 1: Opening the Cash Drawer

= 0: Allow close the Cash Drawer

Bit 1: Reserved

Bit 0: Reserved

Note: Please follow the Cash Drawer control signal design to control the Cash Drawer.

5.1.3. Cash Drawer Control Command Example

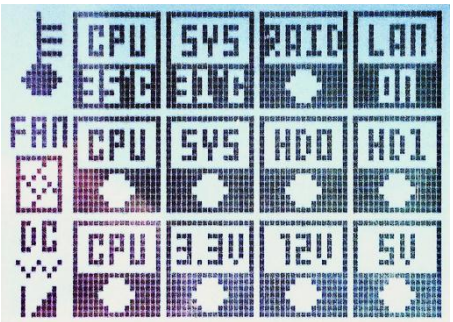
Use Debug.EXE program under DOS or Windows98

Command	Cash Drawer
O 48C 01	Opening
O 48C 00	Allow to close
・・Set the I/O address 48Ch bit2 =1 for opening Cash Drawer by “DOUT bit0” pin control. ・・Set the I/O address 48Ch bit0 = 0 for allow close Cash Drawer.	

Command	Cash Drawer
I 48C	Check status
・・The I/O address 48Ch bit6 =1 mean the Cash Drawer is opened or not exist. ・・The I/O address 48Ch bit6 =0 mean the Cash Drawer is closed.	

6. Hardware Status Display

6.1. Introduction



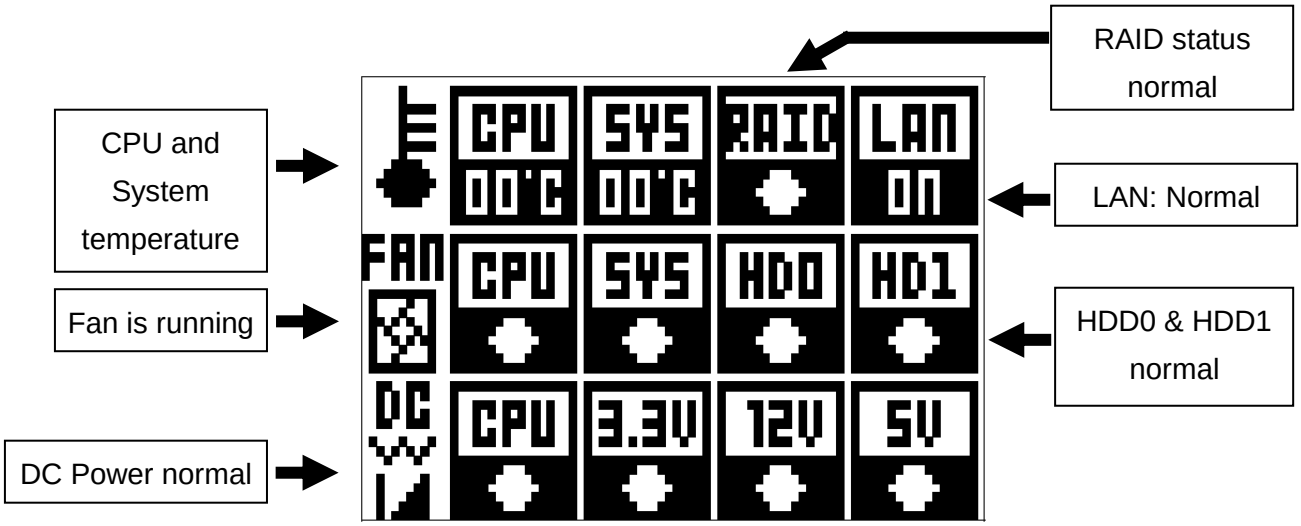
The Hardware Status Display in the front panel of the POSEO 5200 gives information about the working of the main portions of the system hardware. In case of malfunction, it shows which portion of the hardware has an abnormal status:

- Power: CPU, 3.3V, 5V, 12V (normal/abnormal status)
- Fan: CPU and System fan
- Temperature: CPU and System temperature.
- HDD: General RAID status (working/not working), and RAID status of each individual HDD (Normal, Rebuilding, Verifying, not connected)

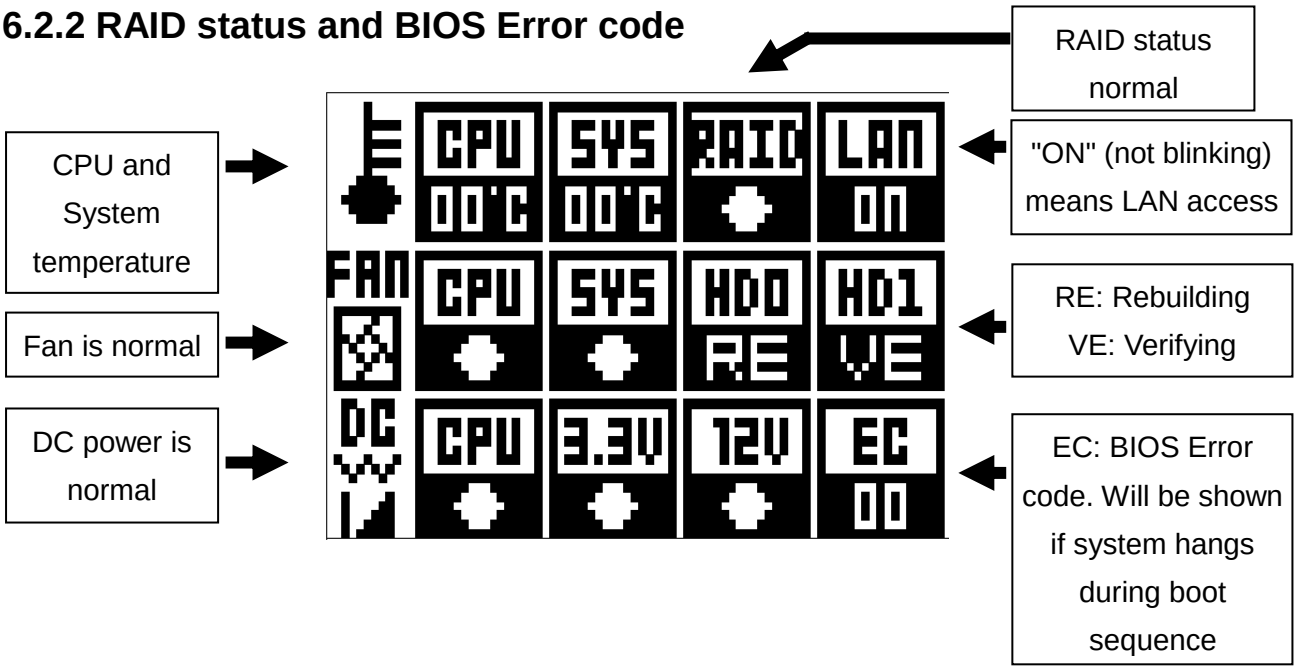
As soon as you connect the power cable to the POSEO 5200, the Hardware Status Display becomes active. You can follow the progress of the booting process, and if the system hangs, the Display will show a BIOS Error code which can help with the debugging.

6.2. Function Description

6.2.1 Normal Status



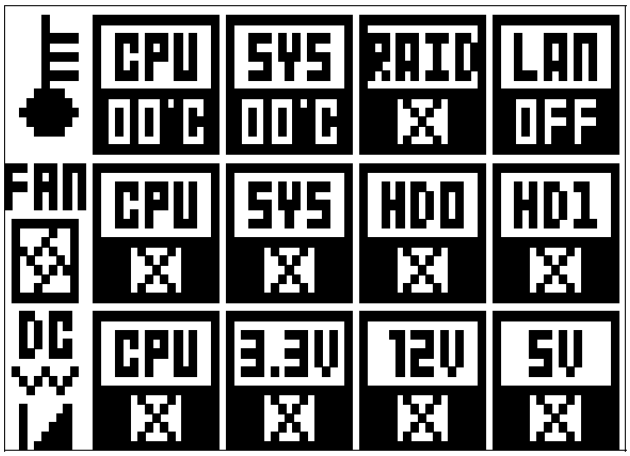
6.2.2 RAID status and BIOS Error code



Note: For a list of BIOS Error Codes, please refer to Appendix B.

6.2.3 Abormal status

A crossed icon will be shown for any item having an abnormal status.



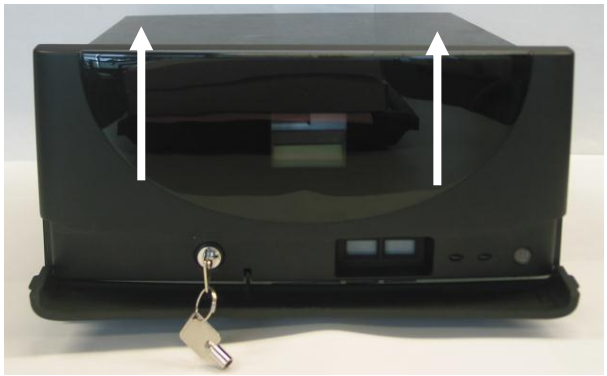
6.3. Icon legend

STATUS	ICON	CONDITION
Abnormal Temperature threshold		> 80 ℃
Abnormal FAN RPM threshold		< 1000RPM
Abnormal CPU Voltage threshold		< 0.6V
+12V Abnormal threshold		< 11.4V or >12.6V
+3.3V Abnormal Voltage threshold		<3.135V or >3.465V
+5.0V Abnormal Voltage threshold		<4.75V or > 5.25V
RAID ICON [X]:		SATA RAID Cable unplugged (Blinking)
RAID ICON [O]:		SATA RAID Cable plugged in
LAN ICON [ON]:		LAN is accessed
LAN ICON [OFF]:		LAN is not accessed
HD0/HD1 ICON Status:		[O]: HDD 0/1 is plugged in. Status=normal
		[X]: HDD 0/1 is not plugged in / is defective (Not Blinking Display)
		[RE]: HDD 0/1 is Rebuilding
		[VE]: HDD 0/1 is Verifying Rebuild

7. System Disassembly

7.1. Removing the Front Cover

a. Open the front cover door and unlock it with the key.



b. Lift the front cover up as shown by the arrows

c. Remove the front cover

7.2. Removing the Top Cover

To remove the top cover, please first follow the steps described in chapter 6.1.

a. Remove the two screws on each side of the top cover

b. Slide the top cover towards the front and remove it from the system.

7.3. Replacing the HDD

To replace the front cover, please follow the steps as described in chapter 6.1.

a. Loosen the thumb screw (1).

b. Lower the locking bar (1).

c. Pull on the blue tab to remove the HDD.

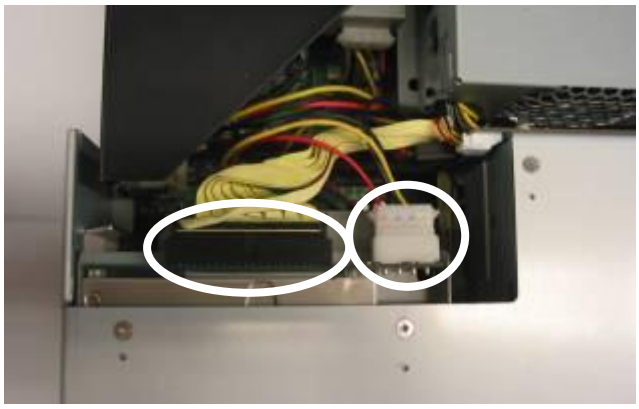
d. Repeat for the second HDD.

7.4. Replacing the DVD-ROM

To replace the front cover, please follow the steps as described in chapter 6.1

a. Loosen the thumb screw (1)

b. Pull the DVD-ROM holder out

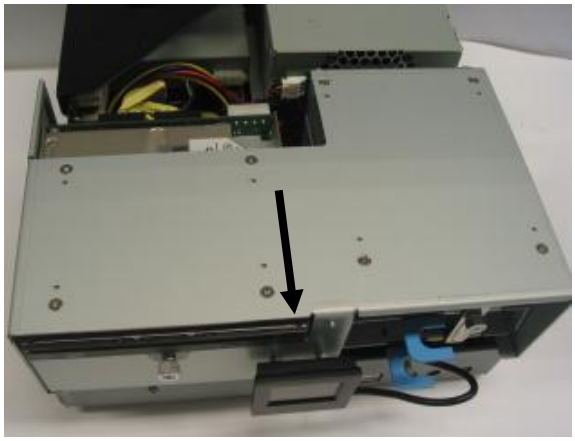


c. Disconnect the cables (2) to remove the DVD-ROM

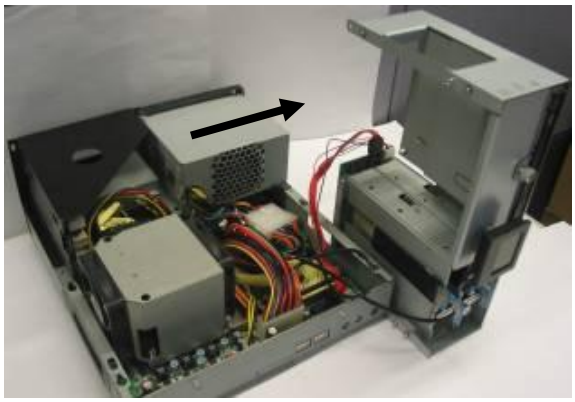
7.5. Replacing the Power Supply

To replace the power supply, please follow the steps as described in chapters 6.1 and 6.2
If you have a DVD-ROM, disconnect the cables as shown in chapter 6.4, item c.

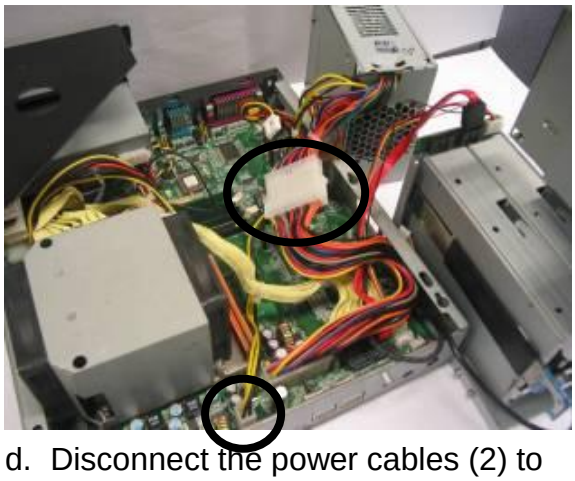
a. Remove the screws (3).



b. Slide the HDD module forward to release it from the chassis



c. Put the HDD module to the side as shown. Slide the power supply to the side as shown.



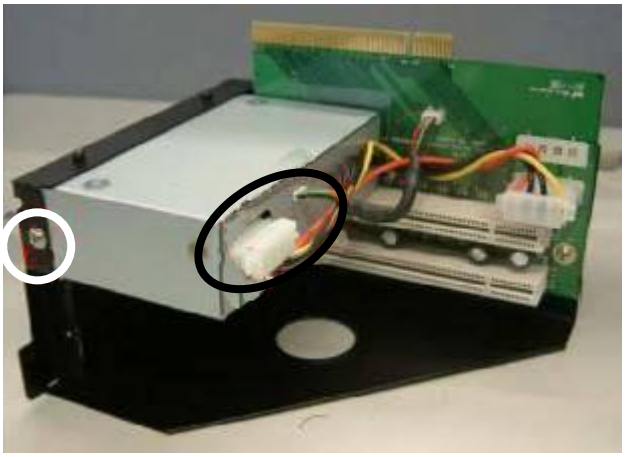
d. Disconnect the power cables (2) to remove the power supply.

e. Remove the screws (3) to separate the power supply from the holder.

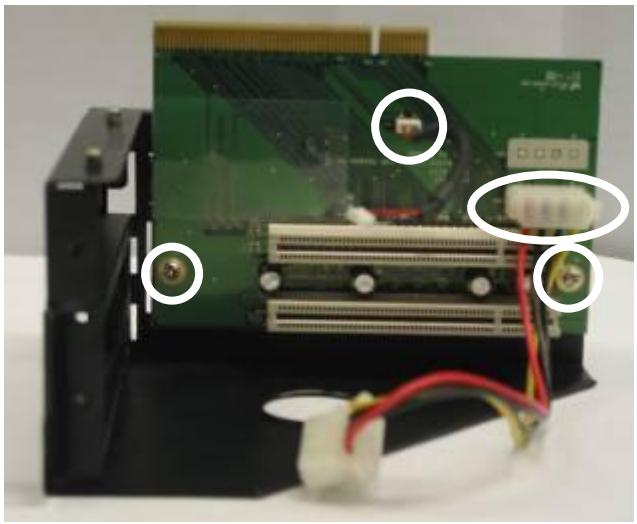
7.6. Replacing the I/O & PCI Extension Module

To replace the I/O and PCI extension module, please follow the steps as described in chapter 6.1 and 6.2

a. Remove the extension module by gently pulling it upwards taking care not to damage the connector.



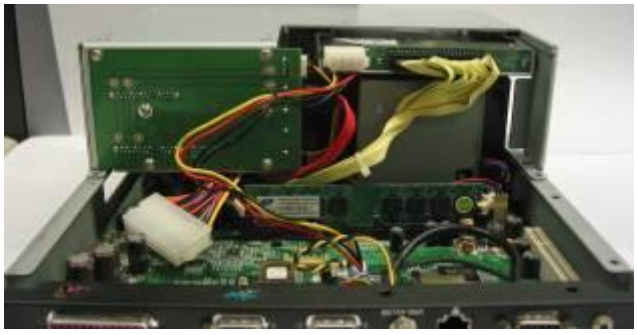
b. Disconnect the cables (2) and remove the screws (2, one on each side) to remove the I/O module from the holder.



c. Disconnect the cables (2) and remove the screws (2) to release the PCI riser card from the holder.

7.7. Replacing the Memory

To replace the memory, please follow the steps as described in chapter 6.1, 6.2 , 6.6(a), 6.5(a+c).

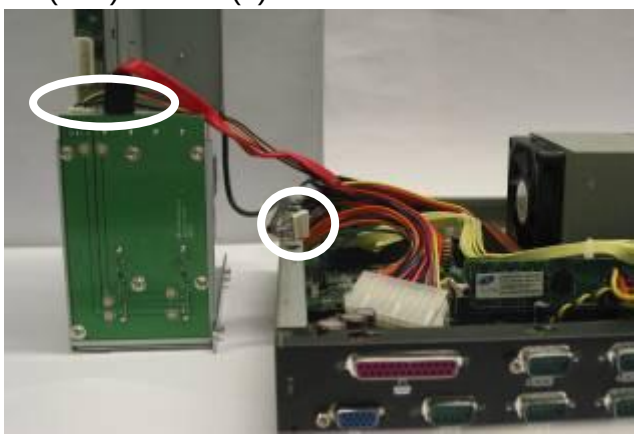


a. Use your finger to push the DIMM slot ejector clips into the down position.

b. Remove the memory module from the slot.

7.8. Replacing the Motherboard

To replace the motherboard, please first follow the steps as described in chapters 6.1, 6.2, 6.5(a~d) and 6.6(a)

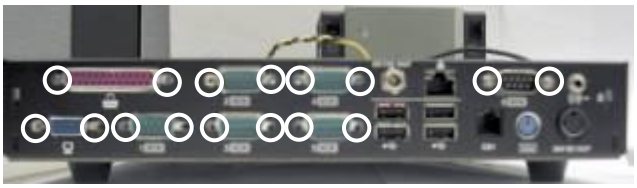


a. Disconnect the HDD power cable and the SATA cable from the HDD docking board. Disconnect the Hardware Status Display cable.

b. Disconnect all the cables from the motherboard:

- 20 pin power cable
- 40 pin IDE cable + DVD-ROM power cable
- HDD SATA and power cables
- 2 x fan cable
- Hardware Status Display cable
- Line Out and DC24V cables
- VGA cable

c. c. Remove the screws (7)



d. Remove the hex nuts (16) to release the motherboard from the chassis

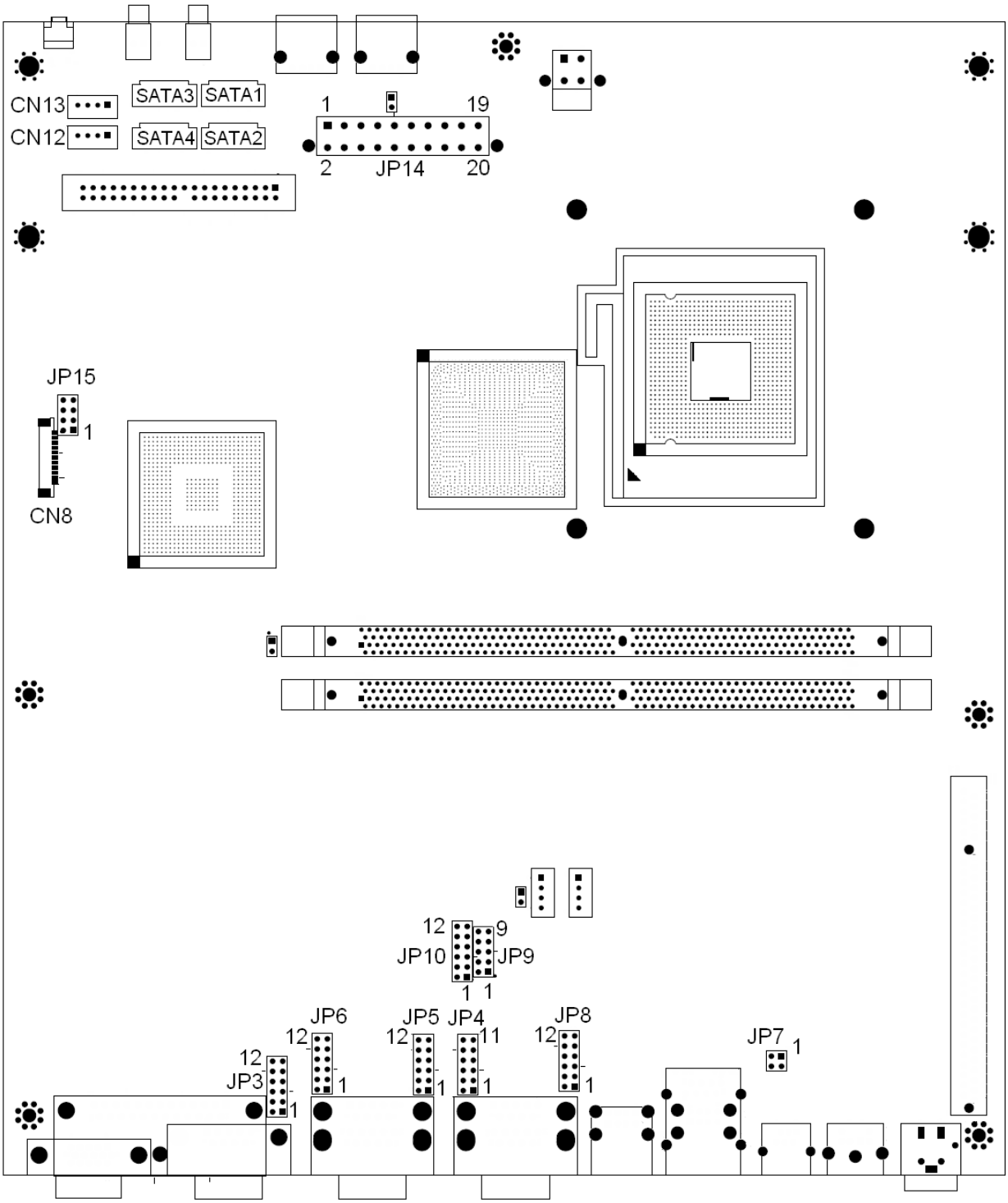
8. Specification

Mainboard	**B99**
CPU Support	LGA775 Pentium Dual Core 1.8GHz, 1MB cache, 800 MHz FSB
Chipset	INTEL 945G FSB 533 / 800 / 1066 MHZ / ICH7R
System Memory	Up to 4GB DDR ll RAM, 2 RAM-DIMM slots
Graphic Memory	Shared memory up to 224 MB
Storage	
HDD	1 x 3.5" SATA, option: 1 x 3.5” SATA
ODD	1 x PATA Slim CD-ROM / CD-RW / DVD-ROM Drive Bay (optional)
Expansion	
PCI Slot	2 slots supported from PCI riser card
USB	1 (USB7)
External I/O Ports	
Front I/O	
USB	2 (USB1~2)
Power Button	1
Rear I/O	
PS/2 Keyboard	1
USB	4 (USB3~ 6)
Serial_RS232	5 (COM1 , COM2, COM3, COM4, COM5)
Parallel	1
LAN (10 / 100 / 1000)	1
VGA	1 (DB15)
DVI	1
Line- out	1
Cash Drawer Port	1
DC 24V output	1
DC 12V output	1 (for OLC 8.4 VESA power)
Control / Indicators	
Power Button	1 (Front)
LED_HDD/Power	2
Hardware Status Display	1

Internal Header	
USB	1 (USB8)
Power Button	1 (pin header)
COM6	1 (pin header)
Peripherals (special feature)	
Second HDD (hot swap)	(optional)
Hardware RAID Card	Supports RAID 1 for 2 SATA HDDs
System ID	Built-in
Connectivity Module	
Powered USB (12V)	2
Powered USB (24V)	1
Powered USB (5V)	1
USB	4
Environment	
EMC & Safety	FCC Class A, CE, LVD
Operating Temperature	5°C~ 35°C (41°F ~95°F)
Storage Temperature	-10°C~ 60°C (14°F ~140°F)
Storage Temperature	10% - 90% RH non condensing
Storage Humidity	10% - 90% RH non condensing
Dimension (W x D x H) System Box	270 x 345 x 120mm
Power Supply	230W

9. Jumper Settings

9.1. B99 Motherboard



9.2. Connectors

Connectors	Function
CN4	COM6 Connector
CN5	Speaker & MIC Connector
CN6	CD-in & Line-in Connector
CN7	USB8
CN9	Power Connector (+5V/+12V)
CN10	Power Connector (+5V/+12V)
CN11	Hardware Reset Connector
CN12	Power Connector (+5V/+12V)
CN13	Power Connector (+5V/+12V)
CN15	Power LED Connector

Connectors	Function
CN16	HDD Action LED Connector
CN17	LAN Action LED Connector
CN18	Hardware Status Display connector
CN19	LVDS (DVI)
FAN_CPU3	CPU Fan Connector
FAN_SYS3	System Fan Connector
IDE3	Primary IDE Connector
PWR3	+24V Power Output
PWR5	+12V Connector

9.3. Jumper Settings

1. COM1 Power Setting ◎Factory Default Setting

Pin	Function	JP4 (SHORT)
1	DCD#	◎1-2
	+5V	3-4
	+12V	5-6
9	RI#	◎7-8
	+5V	9-10
	+12V	11-12

2. COM 2 Power Setting

Pin	Function	JP8 (SHORT)
1	DCD#	◎1-2
	+5V	3-4
	+12V	5-6
9	RI#	◎7-8
	+5V	9-10
	+12V	11-12

3. COM 3 Power Setting

Pin	Function	JP6 (SHORT)
1	DCD#	◎1-2
	+5V	3-4
	+12V	5-6
9	RI#	◎7-8
	+5V	9-10
	+12V	11-12

4. COM 4 Power Setting

Pin	Function	JP5 (SHORT)
1	DCD#	◎1-2
	+5V	3-4
	+12V	5-6
9	RI#	◎7-8
	+5V	9-10
	+12V	11-12

5. COM 5 Power Setting

Pin	Function	JP3 (SHORT)
1	DCD#	◎1-2
	+5V	3-4
	+12V	5-6
9	RI#	◎7-8
	+5V	9-10
	+12V	11-12

6. 2ND Display Power Setting

Function	JP11 (SHORT)
+12V	1-2
NC	◎1

7. CMOS Operation Mode Setting

Function	JP13 (SHORT)
COMS Normal	◎N/C
COMS Reset	1-2

8. Power Mode Setting

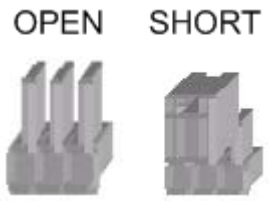
Function	JP14 (SHORT)
ATX Power	◎N/C
AT Power	1-2

9. Cash Drawer Power Setting

Voltage	JP7 (SHORT)
+12V	1-2
+ 24V	◎3-4

10. Hardware Status Display

Function	JP15 (SHORT)
Disable	◎1-2 3-4
Enable	5-6 7-8



9.4. Connector and Pin Definitions

CN5: Speaker & MIC Connector

Pin 1	AMP_ORL	Pin 2	GND
Pin 3	GND	Pin 4	AMP_ORR
Pin 5	GND	Pin 6	MIC1

CN6: CD-IN Connector

Pin 1	CDIN_L	Pin 2	CDIN_REF
Pin 3	CDIN_R	Pin 4	CDIN_REF
Pin 5	GND	Pin 6	LINE_IN_L
Pin 7	LINE_IN_R	Pin 8	GND

CN7: USB8

Pin 1	+5V_USB1	Pin 2	USB20_R_P1
Pin 3	USB20_R_P1+	Pin 4	GND

CN9/10/12/13: Power Connector (+5V/+12V)

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

CN11: Hardware Reset Connector

Pin 1	GND
Pin 2	ALL_SYS_PWRGD

PWR5: +12V Power Connector

Pin 1	GND	Pin 2	GND
Pin 3	+12V_ATX	Pin 4	+12V_ATX

10. BIOS Settings

10.1. BIOS Setup Utility

The BIOS setup defines how the system is configured. You need to run this program the first time you configure this product. You may need to run it again if you change the configuration. You need to connect a PC keyboard to the keyboard connector to run the BIOS setup utility.

10.2. Starting the BIOS Setup

1. Turn on or reboot this product.
2. Press the DEL key immediately after the product is turned on, or press the DEL key when the following message is displayed during POST (the Power on Self-Test).

Press DEL to enter SETUP.

3. The main menu of the BIOS setup is displayed.
4. If the supervisor password is set, you must enter it here.

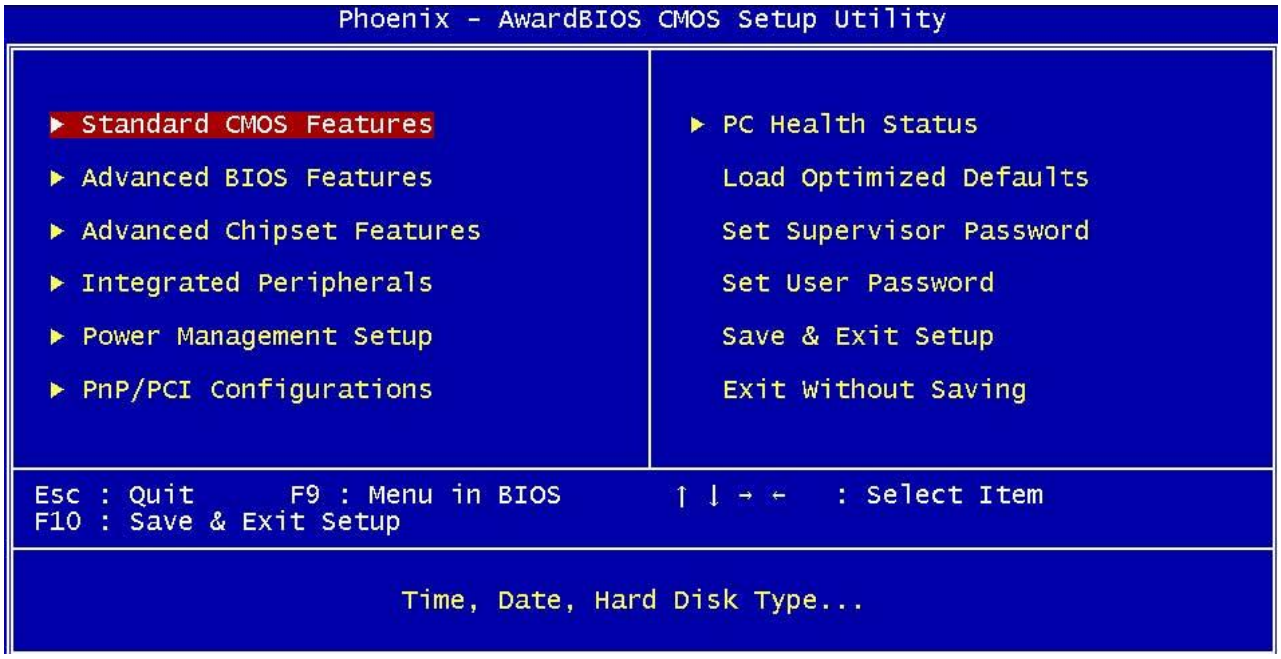
If, after making and saving system changes with the Setup utility, you find that this product no longer boots, start the BIOS setup and execute the following.

10.3. When a Problem Occurs

Load Optimized Defaults

10.4. BIOS Main Menu

When the BIOS Main Menu is displayed, the following items can be selected. Use the arrow keys to select items and the Enter key to accept and enter the sub-menu.
Note: The BIOS menu below is from B99 RAID BIOS version B990V10.BIN. If you have a different BIOS version, the contents of the menu may differ slightly.



Standard CMOS Features

Use this menu for basic system configuration.

Advanced BIOS Features

Use this menu to set the Advanced Features available on the system.

Advanced Chipset Features

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

Integrated Peripherals

Use this menu to specify your settings for integrated peripherals.

Power Management setup

Use this menu to specify your settings for power management.

PnP/PCI Configurations

This entry appears if your system supports Plug and Play and PCI Configuration.

PC health status

Displays CPU, System Temperature, Fan Speed, and System Voltages Value.

Load Optimized Defaults

Use this menu to load the BIOS default values, i.e., factory settings for optimal performance

system operations. While Award has designed the custom BIOS to maximize performance, the factory has the option to change these defaults to meet their needs

Set Supervisor Password

Enables you to change, set, or disable the supervisor or user password

Set Password

Change, set, or disable the password. It allows you to limit access to the system and to the setup, or just to the setup.

Save & exit setup

Save CMOS value changes to CMOS and exits setup.

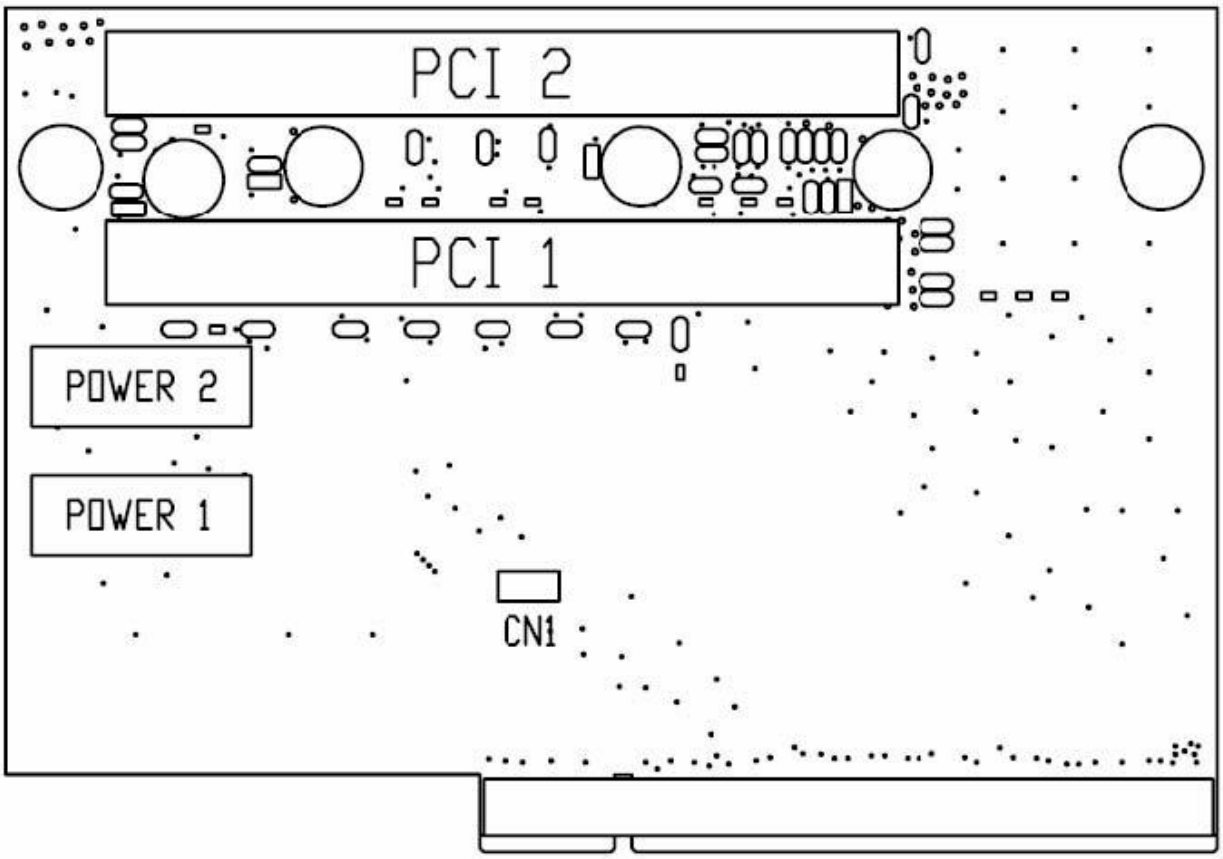
Exit without saving

Ignores all CMOS value changes and exits setup.

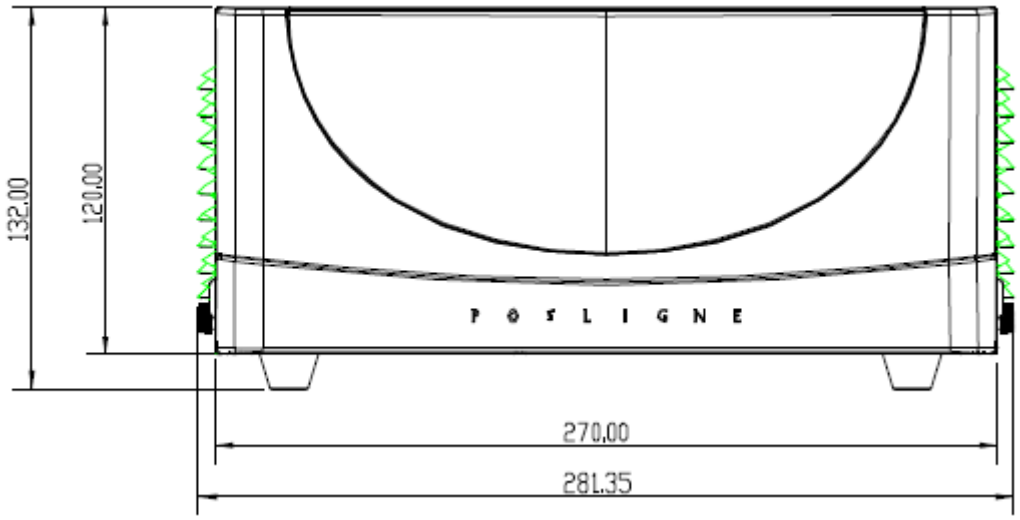
Appendix A: PCI Card Dimensions

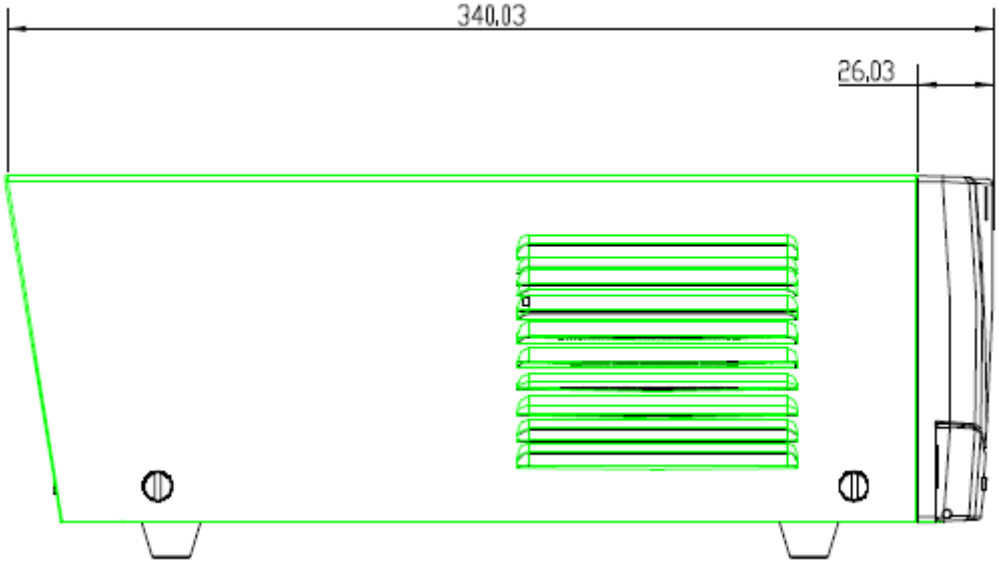
Maximum dimension of the PCI add-on card: Component Side: 130mm x 90.26mm (D x W)

(Picture 1)



Appendix B: Dimensional Drawings





Appendix C: BIOS Error Codes

POST (hex)	Description
CFh	Test CMOS R/W functionality.
C0h	Early chipset initialization: -Disable shadow RAM -Disable L2 cache (socket 7 or below) -Program basic chipset registers
C1h	Detect memory -Auto-detection of DRAM size, type and ECC. -Auto-detection of L2 cache (socket 7 or below)
C3h	Expand compressed BIOS code to DRAM
C5h	Call chipset hook to copy BIOS back to E000 & F000 shadow RAM.
0h1	Expand the Xgroup codes locating in physical address 1000:0
02h	Reserved
03h	Initial Superio_Early_Init switch.
04h	Reserved
05h	1. Blank out screen 2. Clear CMOS error flag
06h	Reserved
07h	1. Clear 8042 interface 2. Initialize 8042 self-test
08h	1. Test special keyboard controller for Winbond 977 series Super I/O chips. 2. Enable keyboard interface.
09h	Reserved
0Ah	1. Disable PS/2 mouse interface (optional). 2. Auto detect ports for keyboard & mouse followed by a port & interface swap (optional). 3. Reset keyboard for Winbond 977 series Super I/O chips.
0Bh ~ 0Dh	Reserved
0Eh	Test F000h segment shadow to see whether it is R/W-able or not. If test fails, keep beeping the speaker.
0Fh	Reserved
10h	Auto detect flash type to load appropriate flash R/W codes into the run time area in F000 for ESCD & DMI support.

POST (hex)	Description
11h	Reserved
12h	Use walking 1's algorithm to check out interface in CMOS circuitry. Also set real-time clock power status, and then check for override.
13h	Reserved
14h	Program chipset default values into chipset. Chipset default values are MODBINable by OEM customers.
15h	Reserved
16h	Initial Early_Init_Onboard_Generator switch.
17h	Reserved
18h	Detect CPU information including brand, SMI type (Cyrix or Intel) and CPU level (586 or 686).
19h ~ 1Ah	Reserved
1Bh	Initial interrupts vector table. If no special specified, all H/W interrupts are directed to SPURIOUS_INT_HDLR & S/W interrupts to SPURIOUS_soft_HDLR.
1Ch	Reserved
1Dh	Initial EARLY_PM_INIT switch.
1Eh	Reserved
1Fh	Load keyboard matrix (notebook platform)
20h	Reserved
21h	HPM initialization (notebook platform)
22h	Reserved
23h	1. Check validity of RTC value: e.g. a value of 5Ah is an invalid value for RTC minute. 2. Load CMOS settings into BIOS stack. If CMOS checksum fails, use default value instead. 3. Prepare BIOS resource map for PCI & PnP use. If ESCD is valid, take into consideration of the ESCD's legacy information. 4. Onboard clock generator initialization. Disable respective clock resource to empty PCI & DIMM slots. 5. Early PCI initialization: -Enumerate PCI bus number -Assign memory & I/O resource -Search for a valid VGA device & VGA BIOS, and put it into C000:0.
24h ~ 26h	Reserved
27h	Initialize INT 09 buffer

POST (hex)	Description
28h	Reserved
29h	1. Program CPU internal MTRR (P6 & PII) for 0-640K memory address. 2. Initialize the APIC for Pentium class CPU. 3. Program early chipset according to CMOS setup. Example: onboard IDE controller. 4. Measure CPU speed. 5. Invoke video BIOS.
2Ah ~ 2Ch	Reserved
2Dh	1. Initialize multi-language 2. Put information on screen display, including Award title, CPU type, CPU speed ….
2Eh ~ 32h	Reserved
33h	Reset keyboard except Winbond 977 series Super I/O chips.
34h ~ 3Bh	Reserved
3Ch	Test 8254
3Dh	Reserved
3Eh	Test 8259 interrupt mask bits for channel 1.
3Fh	Reserved
40h	Test 8259 interrupt mask bits for channel 2.
41h ~ 42h	Reserved
43h	Test 8259 functionality.
44h ~ 46h	Reserved
47h	Initialize EISA slot
48h	Reserved
49h	1. Calculate total memory by testing the last double word of each 64K page. 2. Program write allocation for AMD K5 CPU.
4Ah ~ 4Dh	Reserved
4Eh	1. Program MTRR of M1 CPU 2. Initialize L2 cache for P6 class CPU & program CPU with proper cacheable range. 3. Initialize the APIC for P6 class CPU. 4. On MP platform, adjust the cacheable range to smaller one in case the cacheable ranges between each CPU are not identical.
4Fh	Reserved
50h	Initialize USB
51h	Reserved
52h	Test all memory (clear all extended memory to 0)
53h ~54h	Reserved

POST (hex)	Description
55h	Display number of processors (multi-processor platform)
56h	Reserved
57h	1. Display PnP logo 2. Early ISA PnP initialization -Assign CSN to every ISA PnP device.
58h	Reserved
59h	Initialize the combined Trend Anti-Virus code.
5Ah	Reserved
5Bh	(Optional Feature) Show message for entering AWDFLASH.EXE from FDD (optional)
5Ch	Reserved
5Dh	1. Initialize Init_Onboard_Super_IO switch. 2. Initialize Init_Onbaord_AUDIO switch.
5Eh ~ 5Fh	Reserved
60h	Okay to enter Setup utility; i.e. not until this POST stage can users enter the CMOS setup utility.
61h ~ 64h	Reserved
65h	Initialize PS/2 Mouse
66h	Reserved
67h	Prepare memory size information for function call: INT 15h ax=E820h
68h	Reserved
69h	Turn on L2 cache
6Ah	Reserved
6Bh	Program chipset registers according to items described in Setup & Auto-configuration table.
6Ch	Reserved
6Dh	1. Assign resources to all ISA PnP devices. 2. Auto assign ports to onboard COM ports if the corresponding item in Setup is set to “AUTO”.
6Eh	Reserved
6Fh	1. Initialize floppy controller 2. Set up floppy related fields in 40:hardware.
70h ~ 72h	Reserved
73h	(Optional Feature) Enter AWDFLASH.EXE if : -AWDFLASH is found in floppy drive. -ALT+F2 is pressed

POST (hex)	Description
74h	Reserved
75h	Detect & install all IDE devices: HDD, LS120, ZIP, CDROM…..
76h	Reserved
77h	Detect serial ports & parallel ports.
78h ~ 79h	Reserved
7Ah ~ 7Eh	Detect & install co-processor
7Fh	1. Switch back to text mode if full screen logo is supported. -If errors occur, report errors & wait for keys -If no errors occur or F1 key is pressed to continue: ◆Clear EPA or customization logo.
80h ~ 81h	Reserved
E8POST.ASM starts	
82h	1. Call chipset power management hook. 2. Recover the text fond used by EPA logo (not for full screen logo) 3. If password is set, ask for password.
83h	Save all data in stack back to CMOS
84h	Initialize ISA PnP boot devices
85h	1. USB final Initialization 2. NET PC: Build SYSID structure 3. Switch screen back to text mode 4. Set up ACPI table at top of memory. 5. Invoke ISA adapter ROMs 6. Assign IRQs to PCI devices 7. Initialize APM 8. Clear noise of IRQs.
86h ~ 92h	Reserved
93h	Read HDD boot sector information for Trend Anti-Virus code
94h	1. Enable L2 cache 2. Program boot up speed 3. Chipset final initialization. 4. Power management final initialization 5. Clear screen & display summary table 6. Program K6 write allocation 7. Program P6 class write combining
95h	1. Program daylight saving 2. Update keyboard LED & typematic rate
96h	1. Build MP table 2. Build & update ESCD

POST (hex)	Description
	3. Set CMOS century to 20h or 19h 4. Load CMOS time into DOS timer tick 5. Build MSIRQ routing table.
FFh	Boot attempt (INT 19h)