Table of Contents

1.1 A Thank-you Note Before You Get Start

First of all, we would like to express our gratitude for purchasing AOpen products. Once again, this motherboard is designed uniquely to meet all your personal needs with our great industry-designing ability and our everlasting perseverance to the quality of all our products.

This manual will introduce you how this motherboard is installed. Please keep it well for your future reference. If you lost your printed manual, you may also go to our website at http://www.aopen.com to download the updated file.

Now, we would like to invite you to personally experience this user-friendly manual and all of the powerful functions this AOpen product offers.

The logos of Adobe and Acrobat are the registered trademarks of Adobe Systems Incorporated.

The logos of AMD, Athlon, and Duron are the registered trademarks of Advanced Micro Devices, Inc.

The logos of Intel, Intel Celeron, Pentium II, III and Pentium 4 are the registered trademarks of Intel Corporation.

The logos of nVidia are the registered trademarks of nVidia Corporation.

The logos of Microsoft, Windows are the registered trademarks of Microsoft Corporation in America and other countries.

All the titles of the products and the trademarks mentioned in this manual are for the purpose of illustrative conveniences and are possessed by their respective firms.

We regret not informing about any changes in usage standards and other related information. AOpen reserves the right of altering or modifying the content of this manual. In case of any mistakes or incorrect descriptions, which include those on the products, AOpen makes no guarantee or commitments.

This document is based on the copyright laws in order to protect our company and reserve all rights.

Under no circumstances are any types of duplicating and loading this brochure in any databases and media permitted except the permission signed on formal document by AOpen Company.

1996-2004 Copyrights, AOpen Ltd. All rights reserved.

1.2 Features of This Manual

To help you grab the useful information of this motherboard and aware of certain conditions that you might need to know, you will see the icons below frequently:

Note

This contains knowledge you should know in process of assembling, or some helpful tips.

Warning / Caution

Please be careful when you see this mark. It highlights mistakes that occur often during assembling, or something you need to pay attention to.

Tip

This tip tells you some useful information that will make your installation smoothly.

1.3 Safety Information

Please wear a wrist strap and attach it to a metal part of the system unit before handling a component. Alternatively, you can also touch an object that is of ground connection or with metal surface.

Always unplug the power before you make any jumper setting.

Before you install or remove any components on the motherboard, please make sure to disconnect the power first in case of damaging motherboard or other components.

Chapter 2 Introduction to This Motherboard

2.1 How does your motherboard look like?
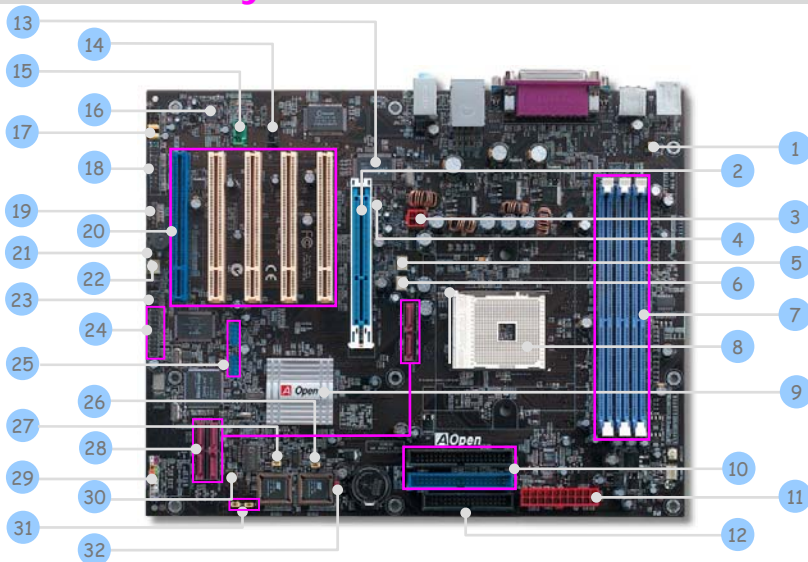
1. JP28 PS2 KB/Mouse Wakeup Jumper	17. Front Audio Connector
2. AGP 8X Expansion Slot	18. Game Port Connector
3. 4-pin 12V ATX Power Connector	19. S/PDIF Connector
4. AGP Protection LED	20. 32-bit PCI Expansion Slots X 5 (Slot 5: Self-Powered PCI Slot, only for n250a-FR)
5. CPUFAN Connector	21. Case Open Connector
6. SYSFAN1 Connector	22. SYSFAN2 Connector
7. 184-pin DIMMs X 3	23. IrDA Connector
8. 754-pin CPU socket supporting AMD™ Athlon™ 64 CPU	24. IEEE1394 Connectors X 2 (only for n250a-FR)
9. NVIDIA nForce3 Chipsets	25. USB2.0 Connectors X 2
10. IDE Connectors x 2	26. JP25 BIOS Protection Jumper (for n250a-FR)
11. ATX Power Connector	27. JP24 BIOS Rescue Jumper (for n250a-FR)
12. FDD Connector	28. Serial ATA Ports X 6 (for n250a and n250a-L, Serial ATA Ports X 4)
13. Realtek LAN Chip	29. Front Panel Connector
14. CD-IN Connector	30. JP2 Speaker Output Jumper (for n250a-FR)
15. AUX-IN Connector	31. JP15, 16 Dr. Voice II Language Selection (for n250a-FR)
16. Onboard AC'97 CODEC	32. JP14 CMOS Data Clear Jumper

2.2 Specification

Here is the main function of your motherboard.

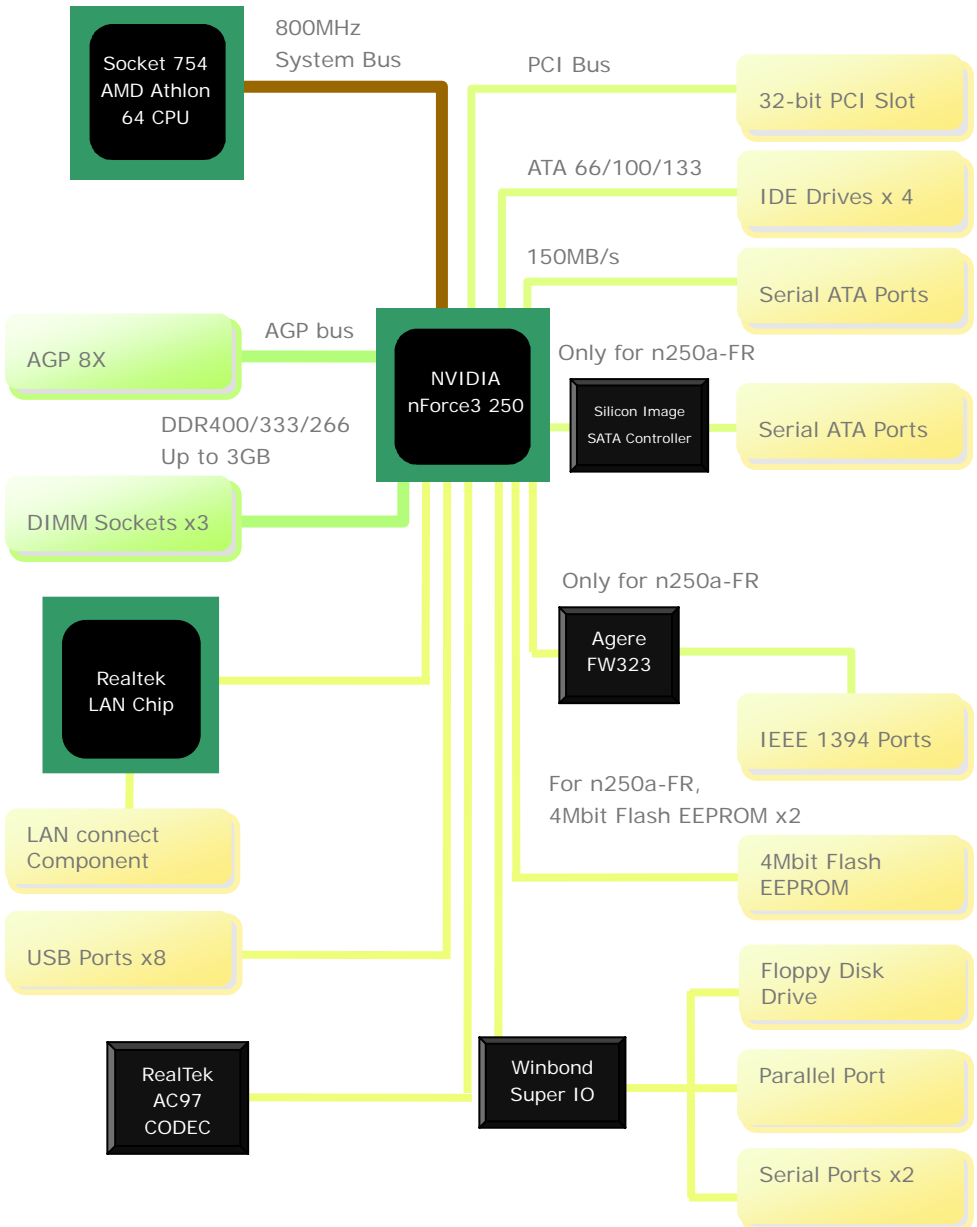| Models	n250a-FR	n250a-L	n250a
CPU	AMD Athlon 64 CPU Socket 754 800MHz	AMD Athlon 64 CPU Socket 754 800MHz	AMD Athlon 64 CPU Socket 754 800MHz
Chipset	nForce3 250	nForce3 250	nForce3 250
Main Memory	DDR 266/333/400MHz DDR DIMM x 3 DIMM Type : 64/128/256/512MB & 1GB Max Memory : 3GB	DDR 266/333/400MHz DDR DIMM x 3 DIMM Type : 64/128/256/512MB & 1GB Max Memory : 3GB	DDR 266/333/400MHz DDR DIMM x 3 DIMM Type : 64/128/256/512MB & 1GB Max Memory : 3GB
Graphics	8X AGP slot	8X AGP slot	8X AGP slot
IDE	Integrated ATA133 and Serial ATA Controller Silicon Image Serial ATA Control Chip [Support RAID 0,1,0+1] Max Disk: 144,000,000GB [by 48 bits LBA Spec.]	Integrated ATA133 and Serial ATA Controller Max Disk: 144,000,000GB [by 48 bits LBA Spec.]	Integrated ATA133 and Serial ATA Controller Max Disk: 144,000,000GB [by 48 bits LBA Spec.]
LAN	Realtek Gigabit LAN Controller, support 10/100/1000Mbps	Realtek Gigabit LAN Controller, support 10/100/1000Mbps	Realtek 10/100Mbps LAN Controller, support 10/100Mbps
Sound	Realtek AC'97 CODEC onboard, support 5.1 Channel	Realtek AC'97 CODEC onboard, support 5.1 Channel	Realtek AC'97 CODEC onboard, support 5.1 Channel
USB	USB 2.0 x 8	USB 2.0 x 8	USB 2.0 x 8
IEEE1394	Integrated Agere 1394 Control Chip		
Slots	AGP x 1 PCI x 4, Self-Powered PCI x 1	AGP x 1 PCI x 5	AGP x 1 PCI x 5
Back Panel I/O	PS/2 Keyboard x 1, PS/2 Mouse x 1 USB Port x 4, LAN Port x 1, COM Port x 2, Printer Port x 1 Speaker_Out x 1, Line_In x 1, MIC_In x 1	PS/2 Keyboard x 1, PS/2 Mouse x 1 USB Port x 4, LAN Port x 1, COM Port x 2, Printer Port x 1 Speaker_Out x 1, Line_In x 1, MIC_In x 1	PS/2 Keyboard x 1, PS/2 Mouse x 1 USB Port x 4, LAN Port x 1, COM Port x 2, Printer Port x 1 Speaker_Out x 1, Line_In x 1, MIC_In x 1
On Board Connector	Front Panel x 1 Front Audio x 1 CPU FAN x 1,System FAN x 1,Chassis FAN x 1 Power FAN x 1, Power Temperature Connector x 1 SmartEar Connector x 1 Case Open Connector x 1 S/PDIF Connector x 1, CD_IN x 1, AUX_IN x 1 IrDA x 1,Game Connector x 1 IEEE 1394 x 2, USB Port x 2 USB Connectors x 2	Front Panel x 1 Front Audio x 1 CPU FAN x 1,System FAN x 1,Chassis FAN x 1, Power FAN x 1, Power Temperature Connector x 1 Case Open Connector x 1 , IrDA Connector x 1 S/PDIF Connector x 1, CD_IN x 1, AUX_IN x 1 Game Connector x 1 USB Connectors x 2	Front Panel x 1 Front Audio x 1 CPU FAN x 1,System FAN x 1,Chassis FAN x 1, Power FAN x 1, Power Temperature Connector x 1 Case Open Connector x 1 , IrDA Connector x 1 S/PDIF Connector x 1, CD_IN x 1, AUX_IN x 1 Game Connector x 1 USB Connectors x 2
BIOS	Award PnP 4Mb Flash ROM BIOS x 2	Award PnP 4Mb Flash ROM BIOS	Award PnP 4Mb Flash ROM BIOS
Board Size	305 mm x 244 mm	305 mm x 244 mm	305 mm x 244 mm

2.3 Block Diagram

Socket 754 AMD Athlon 64 CPU	

800MHz System Bus

PCI Bus → **32-bit PCI Slot**

ATA 66/100/133 → **IDE Drives x 4**

150MB/s → **Serial ATA Ports**

AGP 8X — AGP bus — **NVIDIA nForce3 250**

Only for n250a-FR

Silicon Image SATA Controller → **Serial ATA Ports**

DDR400/333/266 Up to 3GB

DIMM Sockets x3

Only for n250a-FR

Agere FW323 → **IEEE 1394 Ports**

Realtek LAN Chip

For n250a-FR, 4Mbit Flash EEPROM x2 → **4Mbit Flash EEPROM**

LAN connect Component

USB Ports x8

Floppy Disk Drive

RealTek AC97 CODEC — **Winbond Super IO** — **Parallel Port**

Serial Ports x2

8

Chapter 3 Hardware Installation

3.1 Quick Installation Procedure

1. Installing CPU

2. Installing CPU Fan & System Fan

3. Installing Memory Module

4. Installing HD, CD-ROM and SATA Disk, etc

5. Connecting Front Panel Cable

6. Connecting ATX Power Cable

7. Installing AGP & PCI Cards

8. Installing Other Devices (USB, Front Audio, etc)

9. Connecting Back Panel Ports (Keyboard, Mouse, etc)

10. Loading Default BIOS, Setting CPU Frequency

11. Installing Operating System (such as, Windows XP)

12. Installing Drivers & Utilities

3.2 Installation You Have to Know
Installing CPU

This motherboard supports AMD® Athlon 64 Socket 754 CPU. Be careful of CPU orientation when you plug it into CPU socket (with **CPU Overheat Protection** function implemented, the system will be automatically power off when the temperature of CPU reached 97 degree).

1.   Pull up the CPU socket lever and up to 90-degree angle.

2.   Locate Pin 1 in the socket and look for a golden arrow on the CPU upper interface. Match Pin 1 and golden arrow. Then insert the CPU into the socket.

3.   Press down the CPU socket lever to finish CPU installation.

CPU socket lever
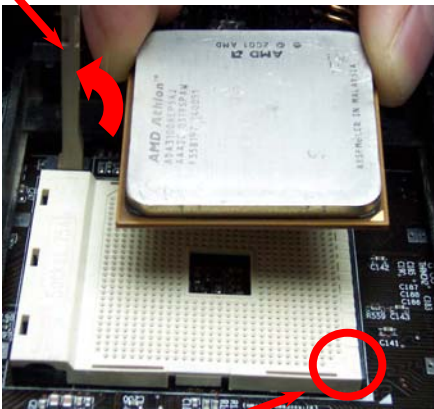
Socket Pin 1

Golden Arrow

Installing CPU and System Fans

Plug the CPU fan cable to the 3-pin CPUFAN connector. If you have chassis fan, you can also plug it in SYSFAN1 or SYSFAN2 connector.

SENSOR
+12V
GND

SYSFAN1 Connector

SENSOR
+12V
GND

CPUFAN Connector

GND
+12V
SENSOR
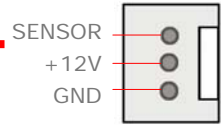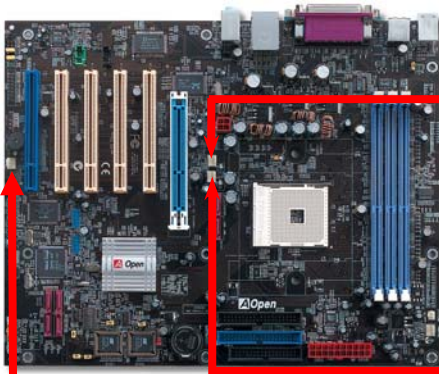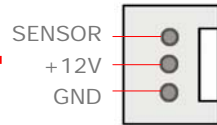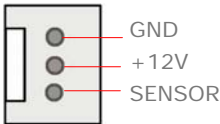
SYSFAN2 Connector

Note: Some CPU fans do not have sensor pin so that they cannot support fan monitoring.

Installing Memory Modules

DIMM slots are designed in Navy Blue or Electronic Blue which are very easy to recognize. Insert the module straight down to the DIMM slot with both hands and press down firmly until the DIMM module is securely in place.

Tab

Pin 1

Key
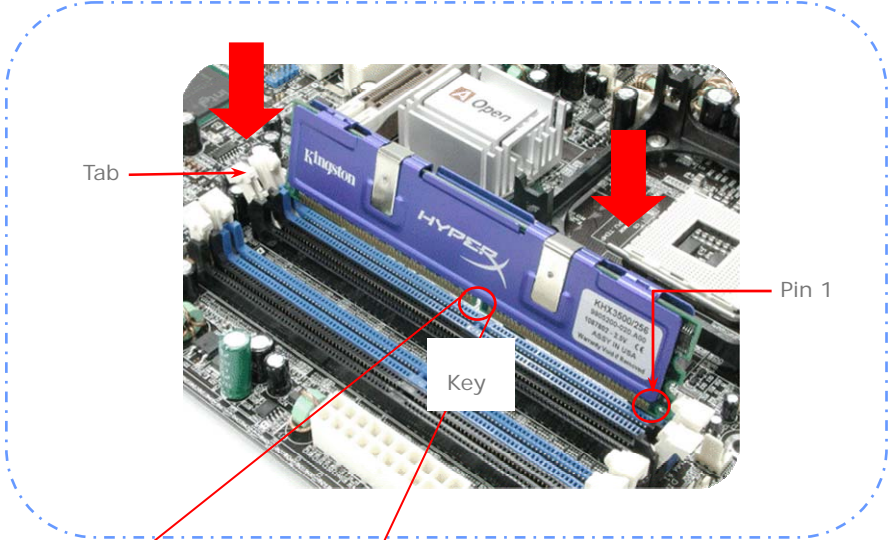
> **Note:** *The tabs of the DIMM slot will clip to hold the DIMM in place when the DIMM touches the slot's bottom.*

Connecting IDE and Floppy Cables

Connect the 34-pin floppy cable and 40-pin, 80-wire IDE cable to floppy connector and IDE connector. Be careful of the pin1 orientation. Wrong orientation may cause system damage.

FDD Connector

Pin 1

| Secondary Slave (4th) | Secondary Master (3rd) |

Pin 1

IDE 1 (Primary)

| Primary Slave (2nd) | Primary Master (1st) |

ATA 66/100/133
IDE Connector

Connecting ATX Power Cables

This motherboard comes with a 20-pin and 4-pin ATX power connector as shown below. Make sure you plug them in the right direction. We strongly recommend you to insert the 4-pin connector before connecting the 20-pin connector.
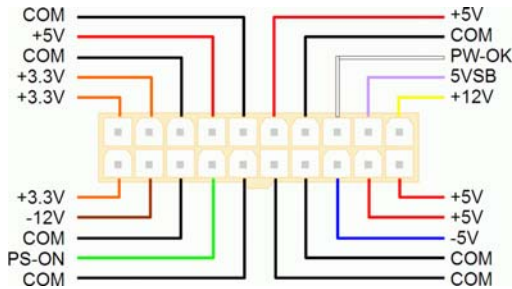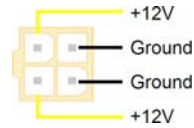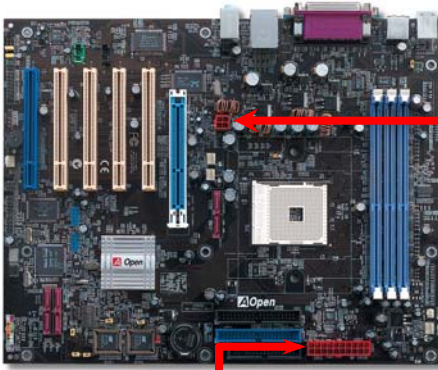
Connecting Front Panel Cable

Attach the power LED, speaker and reset switch connectors to the corresponding pins. If you enable "Suspend Mode" item in BIOS Setup, the ACPI & Power LED will keep flashing while the system is in suspend mode.

Locate the power switch cable from your ATX housing, which is a 2-pin female connector from the housing front panel. Plug this connector to the soft-power switch connector marked SPWR.

	1		
NC	○	○	Power Switch
NC	○	○	GND
+5V	○	○	Power LED-
HDD LED	○	○	GND
HDD LED	○	○	NC
+5V	○	○	NC
+5V	○	○	GND
GND	○	○	GND
NC	○	○	RESET
SPEAKER	○	○	GND

Front Panel Connector

3.3 Other Installation for Your Reference

Setting CPU Voltage and Frequency

Setting CPU Core Voltage

This motherboard supports Voltage ID (VID) function to detect CPU voltage automatically during power-on. However, if users are willing to do overclocking, we also provide a range from 0.80V to 1.55V in the BIOS. Sometimes increasing the original core voltage a little bit will make CPU overclock more properly.

Setting CPU Frequency

This motherboard is of CPU jumper-less design; you can set CPU frequency by 1MHz stepping CPU Overclocking in the BIOS. *CPU Core Frequency = CPU FSB clock x CPU Ratio*. However, all CPU now sold in market belong to "Fixed Multiplier". That means users can not adjust the CPU Ratio but change CPU FSB clock to achieve overclocking only.

BIOS Setup > Frequency / Voltage Control > CPU Speed Setup
(Users will do the overclocking at their own risks!!)

AMD CPU	CPU Core Freq.	CPU Clock	L2 Cache	Ratio
Athlon 64 2800+	1800MHz	200MHz	512KB	9x
Athlon 64 3000+	2000MHz	200MHz	512KB	10x
Athlon 64 3200+	2000MHz	200MHz	1024KB	10x
Athlon 64 3200+	2200MHz	200MHz	512KB	11x
Athlon 64 3400+	2200MHz	200MHz	1024KB	11x
Athlon 64 3400+	2400MHz	200MHz	512KB	12x
Athlon 64 3700+	2400MHz	200MHz	1024KB	12x

Note: With CPU speed changing rapidly, there might be faster CPU on the market by the time you received this installation guide. This table is kindly for your references only, please contact with your distributor for more information

Warning: *NVidia nForce3 250 chipset supports maximum 200MHz system clock and 66MHz AGP clock; higher clock setting may cause serious system damage.*

Note: If your system hangs or fails to boot because of overclocking, simply use <Home> key to restore the default setting or you can wait the AOpen "Watch Dog ABS" reset the system in five seconds and system will auto-detect hardware again .

Warning: Supposed you have had adjusted CPU ratio on your current CPU, and you plan to replace a new CPU. Please use <Home> key or Clear CMOS to restore the default setting when changing a new CPU, because the system will still implement the previous CPU setting on the new one.

CPU Ratio	From 4x to 25x step 1x
CPU FSB (Adjustment manually)	FSB = 200 MHz-250 MHz by 1 MHz Stepping CPU Overclocking

Connecting Serial ATA

To connect a serial ATA disk, you have to have a 7-pin serial ATA cable. Connect two ends of the serial ATA cable to the serial ATA header on the motherboard and the disk. Like every other traditional disk, you also have to connect a power cable. Please be noted that it is a jumper free implement; you don't need to set jumpers to define a master or slave disk. When serial ATA hard disks are installed on serial ATA ports, the one connected on Port1(SATA1) will be set as the first boot device automatically. *Please note that it doesn't support Hot-Plug in function.*
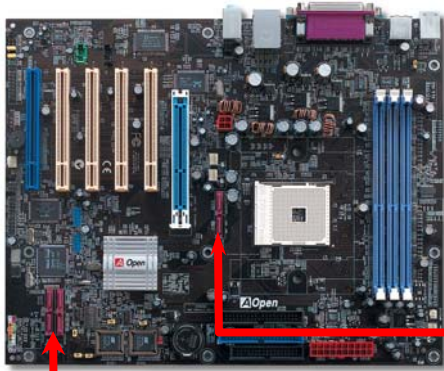
SATA Port2

Only for n250a-FR

SATA Port4

SATA Port5

SATA Port3

SATA Port6

SATA Port1

Adjusting your Hard Disk Setting

Except its original 2 sets of parallel IDE, this motherboard supports the latest serial ATA hard disk. If you are unable to find your newly installed serial ATA hard disks on your operating system after having them installed, the problem may lie in the BIOS setting. You can simply adjust BIOS settings to have them work properly.

After installing your hard disks properly, you can directly go to BIOS setting screen for adjustment. You may simply press *"Integrated Peripherals → IDE Function Setup → Silicon SATA"* to enable or disable SATA interface.
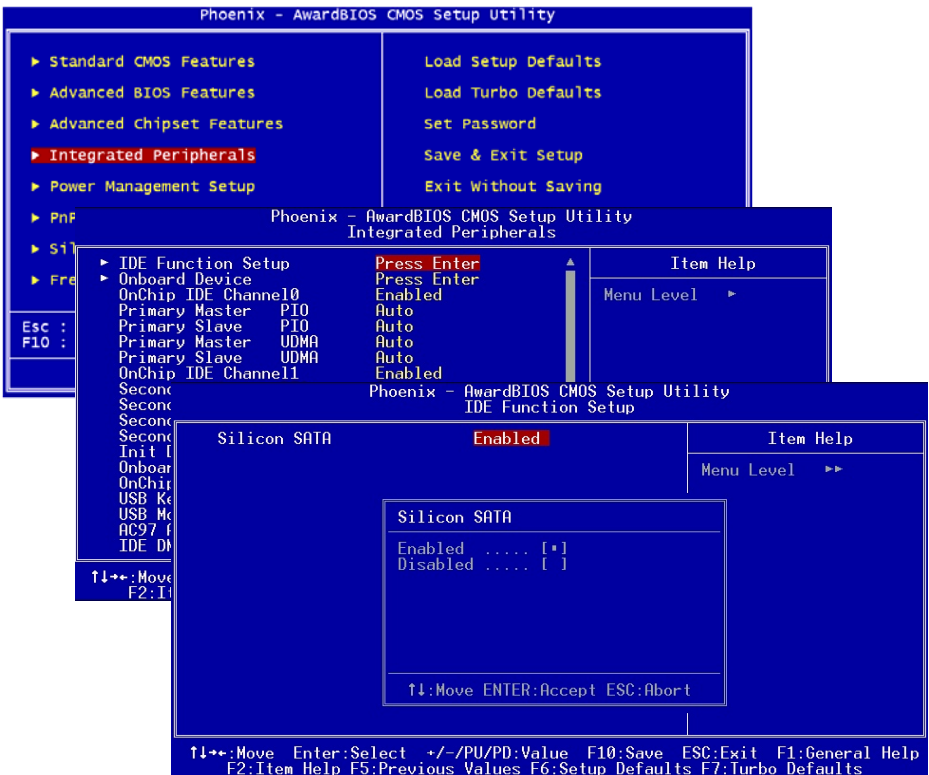
Connecting AGP 8X Expansion Slot

n250a-FR / n250a-L / n250a provide an AGP 8X slot, a sky blue slot having the latest AGP specification on motherboard. The AGP 8X is a bus interface targeted for high-performance 3D graphic. Traditionally AGP used both rising and falling edge of the 66MHz clock for 4X AGP, and the data transfer rate could achieve 66MHz x 4bytes x 4 = 1056MB/s. Now AGP is moving to AGP 8X mode, which is upgraded to 66MHz x 4bytes x 8 =2.1GB/s. You can also adjust AGP voltage in BIOS with range from 1.5V to 1.60V.
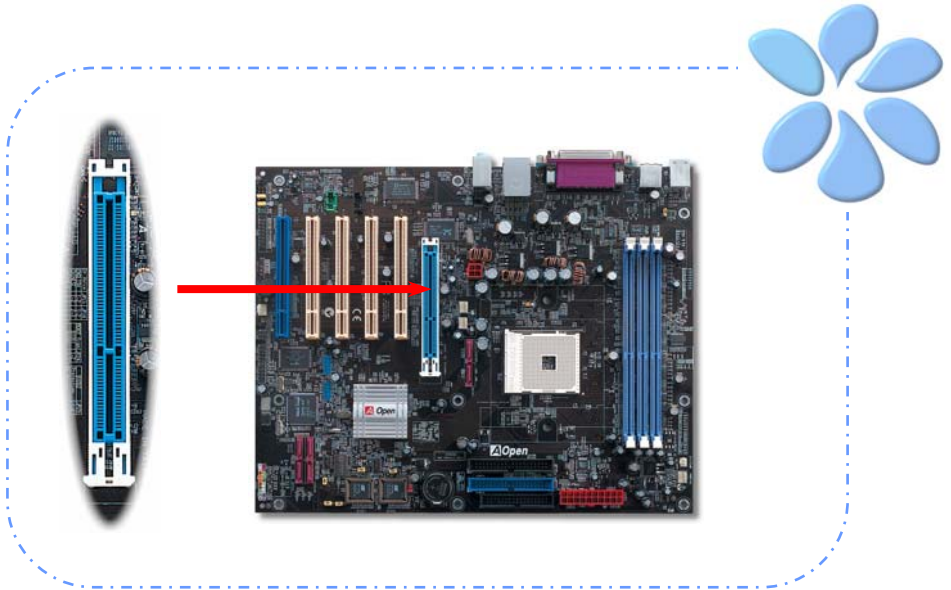
Warning: It is strongly recommended not adjust AGP/PCI voltage/clock when you connect SATA device. It is because when the voltage/clock for AGP/PCI is adjusted, the SATA clock cannot remain at 100MHz, and the system will therefore be unstable.

Connecting IrDA

The IrDA connector can be configured to support wireless infrared module, with this module and application software such as Laplink or Windows Direct Cable Connection, user can transfer files to or from laptops, notebooks, PDA devices and printers. This connector supports both HPSIR (115.2Kbps, 2 meters) and ASK-IR (56Kbps).

Install an infrared module onto the IrDA connector and enable the infrared function from BIOS Setup, UART Mode, you can use this function. Please make sure you connect correct orientation when plugging IrDA module.

Pin 1

```
          1
NC   ●   ○   KEY
+5V  ●   ●   GND
IR_TX ●  ●   IR_RX
      IrDA Connector
```
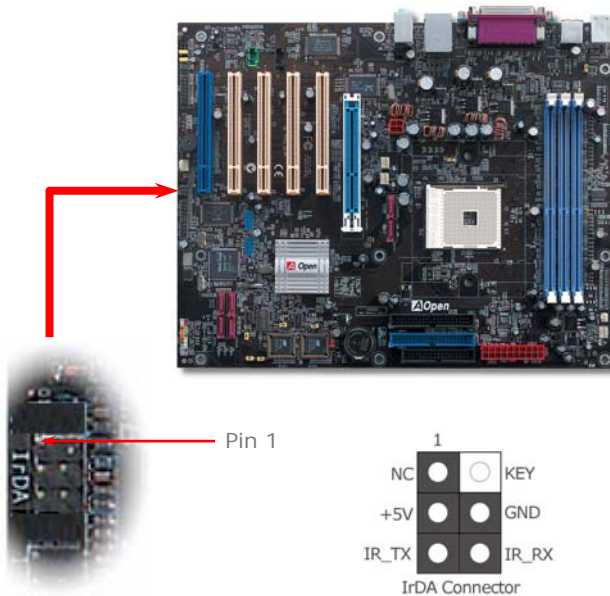
10/100/1000Mbps LAN Supported

On the strength of Gigabit LAN controller on board (for n250a-FR and n250a-L), this motherboard provides 10/100/1000Mbps Ethernet for office and home use (for n250a, it is 10/100 Mbps). The Ethernet RJ45 connector is located on the top of USB connectors. The right hand side LED indicates link mode; it lights in orange when linking to network. The left hand side LED indicates the transfer mode and will light in green when data is transferring at 100Mbps (never lights while at 10Mbps), but will light in orange when transferring in Gigabit's mode. To enable or disable this function, you may simply adjust it through BIOS. To enable LAN wakeup function, you have to set the "Wake on PCI Card" enable in the BIOS "Power Management Setup" section.

Speed LED (Left)
Green 100Mbps
Orange Gigabit mode

ACT LED (Right)
Orange
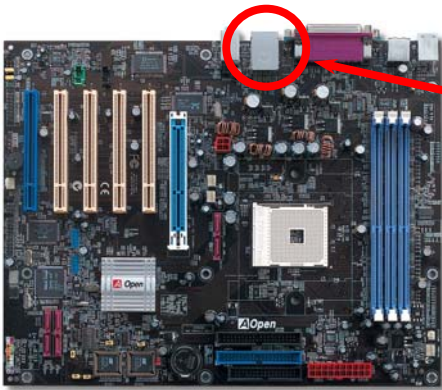
Connecting USB2.0

This motherboard provides eight USB 2.0 ports to connect USB devices such as mouse, keyboard, modem, printer, etc. There are four ports on the back panel. You can use proper cables to connect Front USB connector to USB modules or chassis front panel.

Pin 1

Pin 1

	1	
+5V	● ●	+5V
SBD6-	● ●	SBD7-
SBD6+	● ●	SBD7+
GND	● ●	GND
KEY	○ ●	NC

USB 2.0 Connector
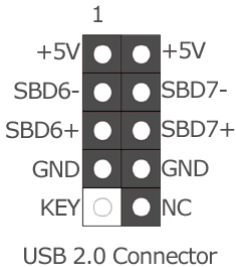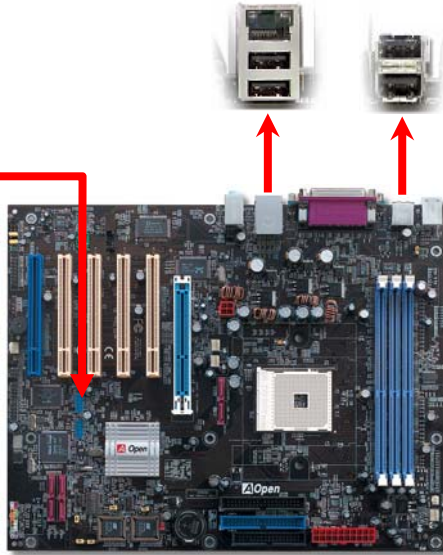
Connecting 1394 (only for n250a-FR)

This motherboard comes with AGERE 1394 Control Chip onboard, the IEEE 1394 provides data transfer rate up to 400Mb/s, this interface can connect to devices that require high data transferring performance such as digital camera, scanner or others IEEE 1394 devices. Please use appropriate cables to connect IEEE1394 devices.

Pin 1

Pin 1
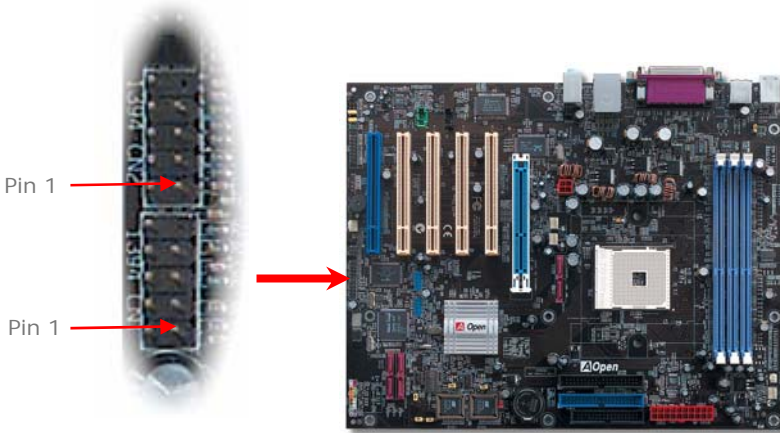
	10	9	
SHIED GND	●	○	
+12V(Fused)	●	●	+12V(Fused)
TPB-	●	●	TPB+
GND	●	●	GND
TPA-	●	●	TPA+
	2	1	

IEEE 1394 Connector

Warning: *Please note that Hot-Plug is not allowed on IEEE 1394 headers; doing so will burn the controller IC and damage the motherboard.*

Connecting S/PDIF

S/PDIF (Sony/Philips Digital Interface) is a newest audio transfer file format, which provides impressive audio quality through optical fiber and allows you to enjoy digital audio instead of analog audio. Through a specific audio cable, you can connect the S/PDIF connector to other end of the S/PDIF audio module, which bears S/PDIF digital output. Normally there are two S/PDIF outputs as shown, one for RCA connector, the most common one used for consumer audio products, and the other for optical connector with better audio quality. Same as outputs, you can also connect RCA or optical audio products to input connectors on the module and have the voice or music come out from your computer. However, you must have a S/PDIF supported speaker/amplifier/decoder with S/PDIF digital input/output to connect to the S/PDIF digital input/output to make the most out of this function.

Pin 1

1
+5V
KEY
SPDIF OUT
GND
SPDIF IN

S/PDIF Connector

(RCA)
S/PDIF OUT
S/PDIF IN
S/PDIF OUT
S/PDIF IN
(Optical)

S/PDIF Cable

S/PDIF Module
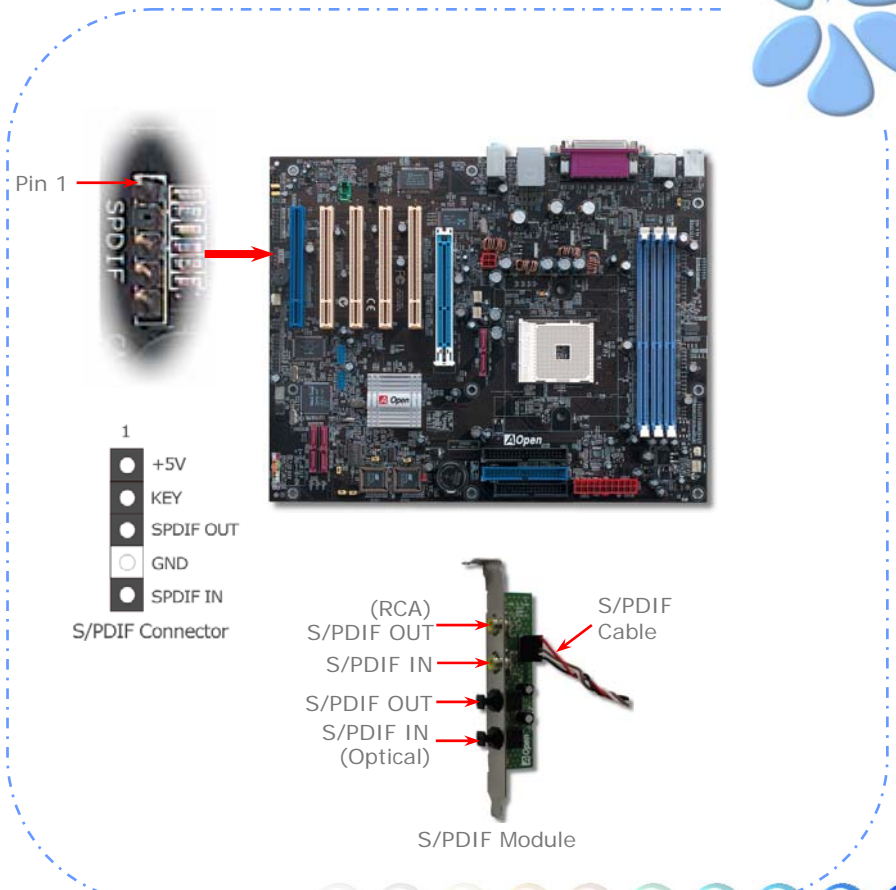
Super 5.1 Channel Audio Effect

This motherboard comes with an AC'97 CODEC, which supports high quality of 5.1 Channel audio effects, bringing you a brand new audio experience. On the strength of the innovative design of AC'97 CODEC, you're able to use standard line-jacks for surround audio output without connecting any external module. To apply this function, you have to install the audio driver in the Bonus Pack CD as well as an audio application supporting 5.1 Channel. Picture below represents the standard location of all speakers in 5.1 Channel sound tracks. Please connect the plug of your front speakers to the green "Speaker out" port, rear speakers' plug to the blue "Line in" port and both of the center and subwoofer speakers to the red "MIC in" port.
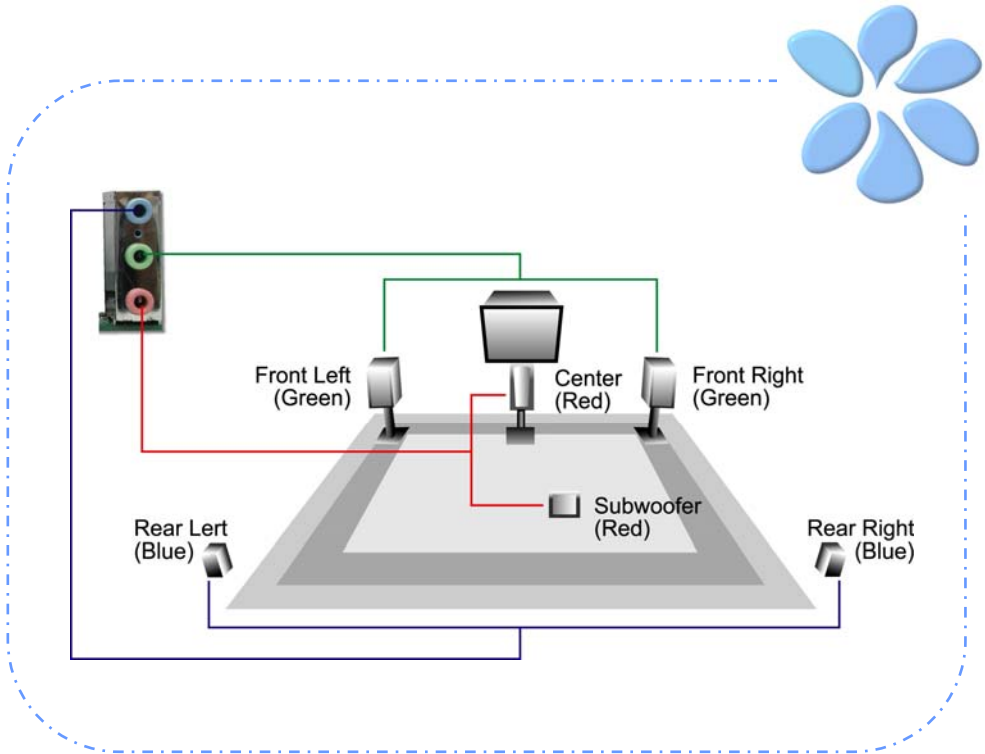
Connecting Front Audio

If the housing is designed with an audio port on the front panel, you'll be able to connect onboard audio to front panel through this connector. By the way, please remove the jumper cap from the Front Audio Connector before you connect the cable. Do not remove this yellow jumper cap if your housing doesn't have an audio port on the front panel.

Pin1

```
                1
   AUD_MIC  ●  ●  AUD_GND
AUD_MIC_BIAS ●  ●  AUD_VCC
AUD_FPOUT_R ●  ●  AUD_RET_R
        NC  ●  ○  KEY
AUD_FPOUT_L ●  ●  AUD_RET_L
```

Front Audio Connector

Connecting Game Port

This motherboard comes with a game port (Joystick-Midi) for you to connect any midi devices or joysticks. To use this function you have to have a joystick module and connect it with a game port cable to this port on the motherboard.

Pin1
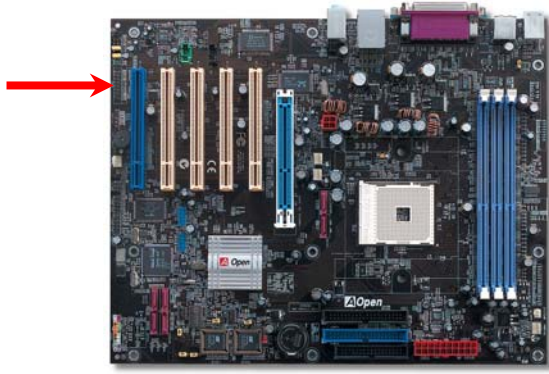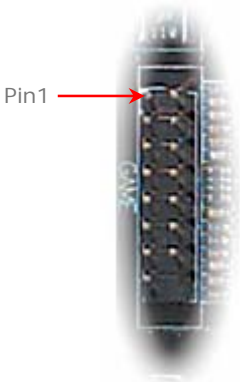
	1	2	
+5V	●	●	+5V
JAB1	●	●	JBB1
JACX	●	●	JBCX
GND	●	●	MIDI_TXD
GND	●	●	JBCY
JACY	●	●	JBB2
JAB2	●	●	MIDI_RXD
+5V	●	○	KEY
	15	16	

Game Port Connector

(User Upgrade Optional)

Connecting CD_IN

This connector is designed to connect CD Audio cable from CDROM or DVD drive to onboard sound.
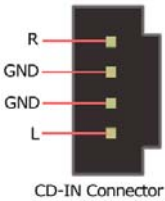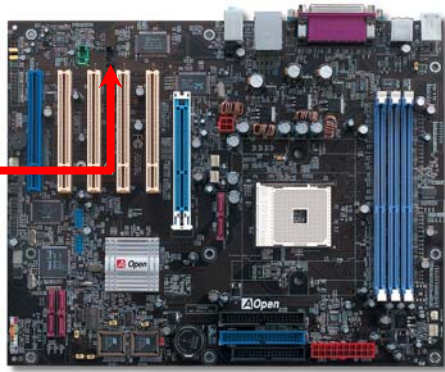
CD-IN Connector

Connecting AUX_IN

This connector is used to connect MPEG Audio cable from MPEG card to onboard sound.

R ───
GND ───
GND ───
L ───

AUX-IN Connector
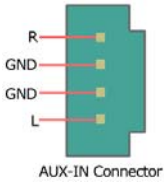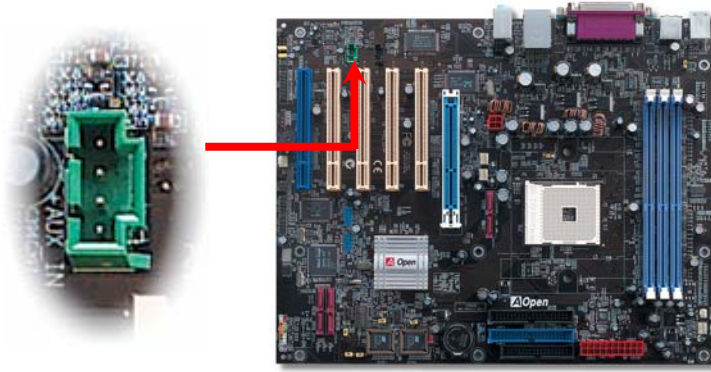
Connecting Case Open

The "CASE OPEN" header provides chassis intrusion-monitoring function. To make this function work, you have to enable it in the system BIOS, connect this header to a sensor somewhere on the chassis. So, whenever the sensor is triggered by lights or by the opening of the chassis, the system will beep to inform you. Please be informed that this useful function only applies to advanced chassis; you may purchase an extra sensor, attach it on your chassis and make a good use of this function.

Pin 1

1
Sensor
GND

Chassis Intrusion Connector
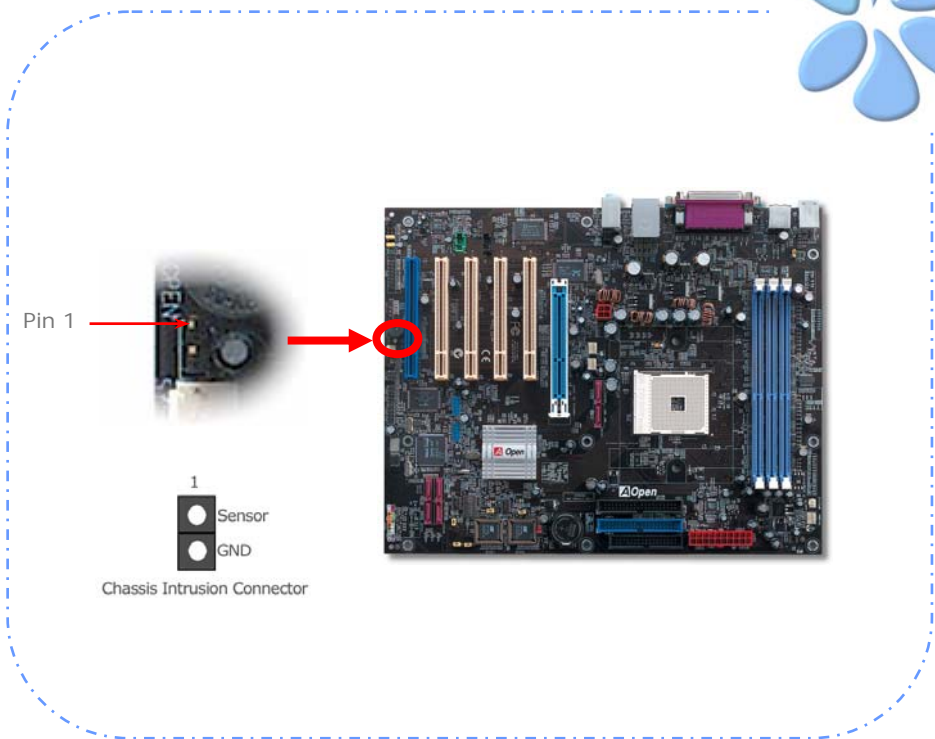
Colored Coded Back Panel

The onboard I/O devices have PS/2 Keyboard, PS/2 Mouse, RJ-45 LAN Connector, COM1, COM2 port, Printer, USB, AC'97 sound and game ports. The view angle of drawing shown here is from the back panel of the housing.
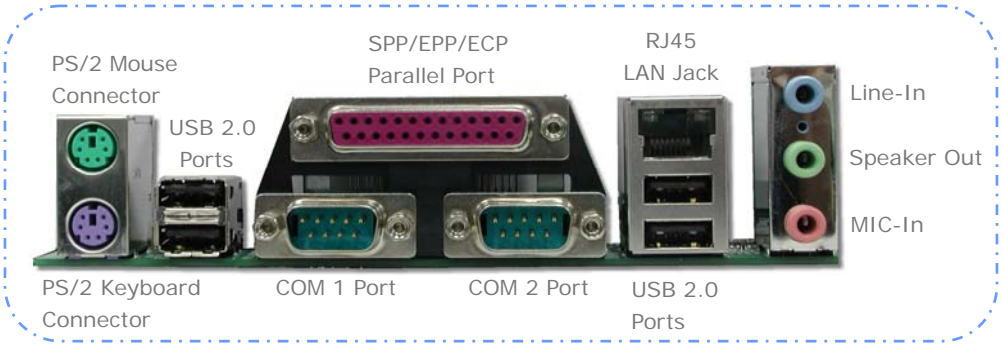
PS/2 Keyboard:	For standard keyboard, which use a PS/2 plug.
PS/2 Mouse:	For PC-Mouse, which use a PS/2 plug.
USB Port:	Available for connecting USB devices.
Parallel Port:	To connect with SPP/ECP/EPP printer.
COM1 Port:	To connect with pointing devices, modem or others serial devices.
COM2 Port:	To connect with pointing devices, modem or others serial devices.
RJ-45 LAN Port:	To connect Ethernet for home or office use.
Speaker Out:	To External Speaker, Earphone or Amplifier.
Line-In:	Comes from the signal sources, such as CD/Tape player.
MIC-In:	For Microphone

LED Indication

LED indication including Standby LED and AGP LED are AOpen's considerate designs that aim at providing you friendly system information.

STBY LED will light up when power is provided to the motherboard, giving you a convenient indication check the system power status in circumstances such as power on/off, stand-by mode and RAM power status during Suspend to RAM mode.

AGP LED aims to protect your motherboard from being damaged by over voltage of AGP card. When AGP Protection Technology is implemented, this motherboard will automatically detect the voltage of AGP card and prevent your chipsets from being burnt out. Please note that if you install an AGP card with 3.3V, which is not supported by NVIDIA nForce3 250 chipset, the AGP LED on the motherboard will light up to warn you the possible damage of the exceeding voltage.

AGP LED

STBY LED
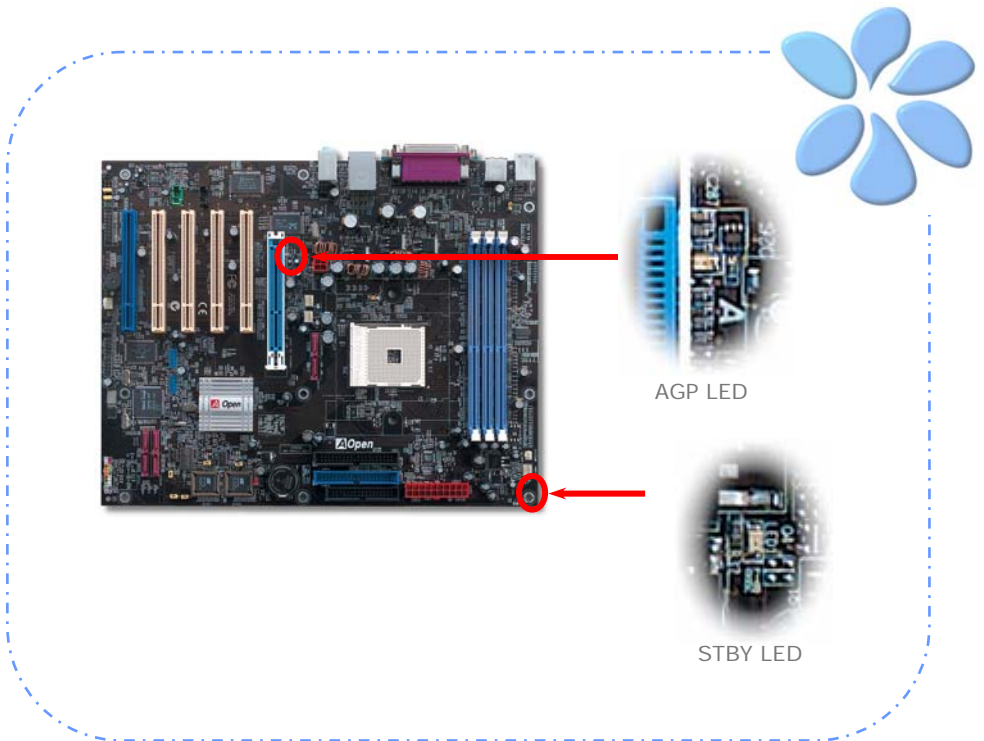
3.4 Jumper Settings

JP2 Speaker Output
(only for n250a-FR)

Allows you to turn off the voice from buzzer or speaker. You can choose not to be bothered by the warning made from Dr. Voice when it detects any error in operating system.

JP14 Clear CMOS Jumper

1 ⬛⬛⬜ 1 ⬜⬛⬛

Normal Clear CMOS
(default)

1 ⬜⬛⬛ 1 ⬛⬛⬜

Buzzer   Speaker
(default)
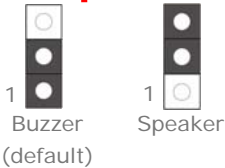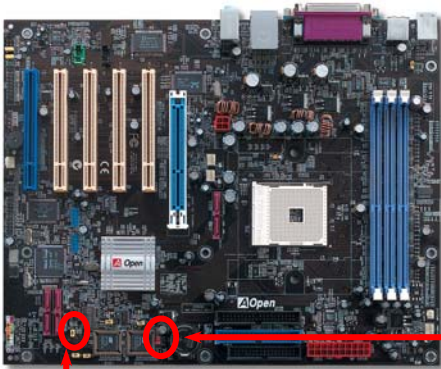
JP2 Speaker Output Jumper
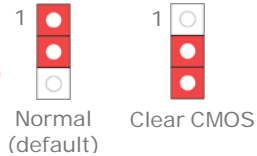
JP14 Clear CMOS Data

You can clear CMOS to restore system default setting. To clear the CMOS, follow the procedure below.

1. Turn off the system and unplug the AC power.

2. Remove ATX power cable from connector PWR2.

3. Locate JP14 and short pins 2-3 for a few seconds.

4. Return JP14 to its normal setting by shorting pin 1 & pin 2.

5. Connect ATX power cable back to connector PWR2.

JP15/16 Dr. Voice Language Select
(only for n250a-FR)

Dr. Voice provides four language versions: English, German, Japanese and Chinese. You can select your preferred language by JP15 & JP16 jumpers.

1 Disable (Default)   1 Enable

JP28 KB/Mouse Wakeup Jumper
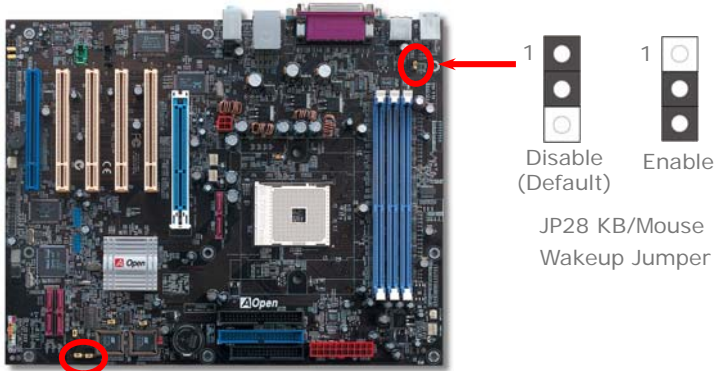
JP15/16 Dr. Voice Languages Select Jumper

	JP15	JP16		JP15	JP16	
English (Default)	●●○	●●○		○●●	●●○	Japanese
Chinese	●●○	○●●		○●●	○●●	German

Pin1   Pin1   Pin1   Pin1
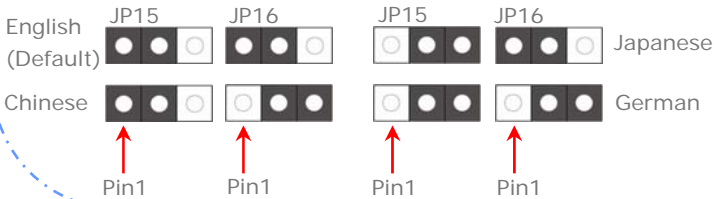
JP28 Keyboard / Mouse Wakeup Jumper

This motherboard provides PS2 keyboard / mouse wake-up function.

(only for n250a-FR)

This motherboard provides DieHard BIOS II function to rescue your BIOS and protect BIOS from viruses. Once your BIOS were crashed, please set JP24 to Pin2-3 to boot up the system with BIOS 2. Then set the JP24 back to Pin1-2. You can go to our website (http://download.aopen.com.tw/downloads) to download your BIOS version suited for your motherboard, and have it flashed.

Moreover BIOS 2 is further enhanced with data saving function. DieHard BIOS II allows you to turn BIOS2 into a Read-and-write ROM with larger space provided.
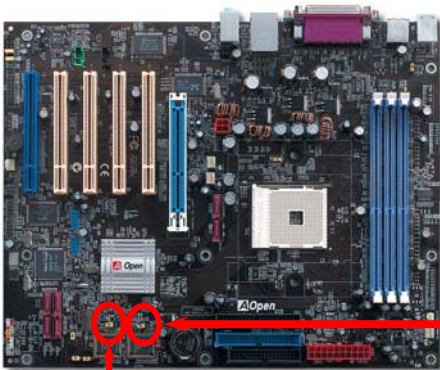
Normal
(default)

Rescue
(Boot from BIOS2)
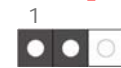
Protection
(default)

No Protection

JP24 BIOS Rescue Jumper

JP25 BIOS2 Protection Jumper

Chapter 4 Special Features and Utilities

RAID (Redundant Array of Independent Disks)

This motherboard supports RAID 0, RAID 1 and RAID 0+1 (n250a-FR only) functions. For more RAID introduction, please visit our website:
http://english.aopen.com.tw/tech/techinside/RAID.htm

RAID Configuration Utility

Nvidia nForce3 250 chipsets support RAID 0 and RAID 1 functions. In order to make sure your system can recognize and operate Serial ATA RAID device smoothly, we have to enter RAID Configuration Utility to do some settings. After finishing the BIOS setup and reboot, you will see [Press F10 to enter RAID setup utility] about half way through the boot up. Pressing F10 immediately, you will later be presented with a screen as shown below, You can use this utility to create or delete your disk arrays.
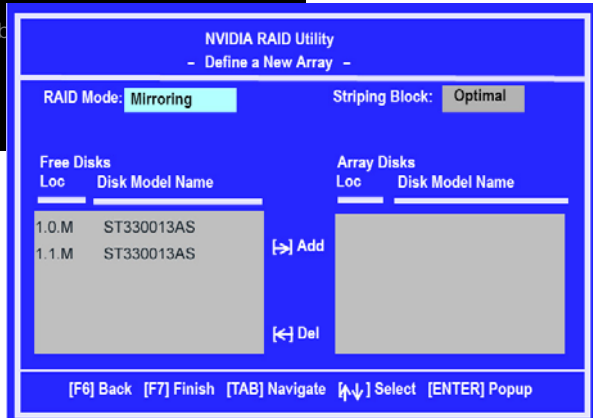
Note: For operating RAID 0 or RAID 1 smoothly, user has to install both NVIDIA RAID CLASS DRIVER and NVIDIA NForce Storage Controller.

Silicon Image SATARaid GUI Overview (only for n250a-FR)

Silicon Image's SATARaidTM provides Serial ATA RAID 0 (Striping), RAID 1 (Mirroring) and RAID 0+1 (Striping and Mirroring) functionality to enhance the industry's leading PCI-to-SATA host controller products. Standard with SATARaid software is a Graphical User Interface (GUI) that provides easy-to-use configurations for different RAID Sets supported.

The SATARaid GUI Installation program configures the SATARaid GUI to automatically start when Windows is started. If the SATARaid GUI does not automatically start or is closed by user, choose the JAVA SATARaid program from Start Menu to launch the GUI.
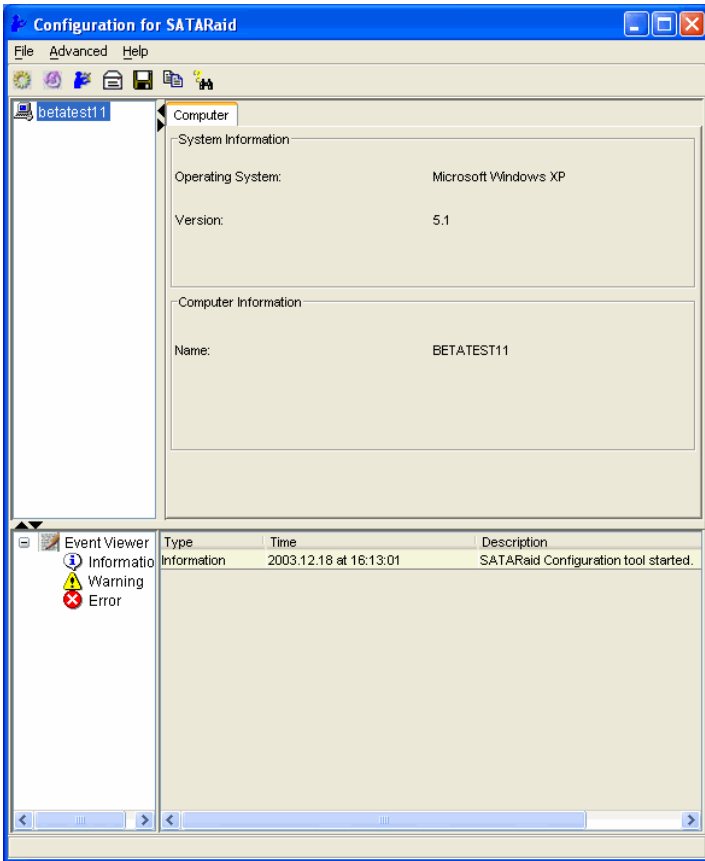
SilentTek – Noise is Gone!

As CPU clock keeps rocketing higher and higher, it has inevitably brought higher heat and system temperature in a relative way. The way we deal with this heat problem, however, is to spare no effort to add one fan after another to protect our pampered system, expecting these fans cool down our machine as much as they can.

But at the same time, we believe that same users are affected terribly by the irritating noises of these fans while working with their PC. As a matter of fact, we do not have to get our fans running at such a high speed in most cases; on the contrary, we discovered that having your fans running at appropriate time and speed not only reduces the noise, but also consumes the least power the system needs, so as to prevent over-wasting of energy resource.

Today, AOpen Motherboard is honored to bring you a new overall solution, SilentTek, to make your system quiet. To collocate with hardware circuit, BIOS and the utility under Windows, SilentTek combines "Hardware-Status Monitoring", "Overheat Warning" and "Fan Speed Control" in a user-friendly interface to provide you a perfect balance among noises, system performance and stability.

```
                   Phoenix - AwardBIOS CMOS Setup Utility
                             SilentTek Control

   CPUFAN   Boot Speed       70%  2800 RPM          │      Item Help
   SYSFAN1  Boot Speed       70%  ---- RPM          │
   SYSFAN2  Boot Speed       70%  None              │  Menu Level    ▶▶
   PWRFAN   Boot Speed       70%  None              │
   Fan Mode                  Full Speed             │  This is initial fan
 x CPUFAN   Fixed Speed     100%  4000 RPM          │  speed when power-on.
 x SYSFAN1  Fixed Speed     100%  ---- RPM          │  "50%" means half of
 x SYSFAN2  Fixed Speed     100%  None              │  full speed, "100%"
 x PWRFAN   Fixed Speed     100%  None              │  means full speed.
 x CPU Set Temp.             40°  C                 │
 x SYS Set Temp.             30°  C                 │  Note:
 x PWR Set Temp.             30°  C                 │  During POST stage,
   CPUFAN   OS Speed        100%  4000 RPM          │  the fan will be
   SYSFAN1  OS Speed        100%  ---- RPM          │  controlled by the mode
   SYSFAN2  OS Speed        100%  None              │  you specified in the
   PWRFAN   OS Speed        100%  None              │  item "Fan Mode".

 ↑↓→←:Move   Enter:Select   +/-/PU/PD:Value   F10:Save   ESC:Exit   F1:General Help
         F2:Item Help  F5:Previous Values  F6:Setup Defaults  F7:Turbo Defaults
```

The first image you have here is Voltage Status page. You can find current status of all voltages here and set your expected margins of warning level.
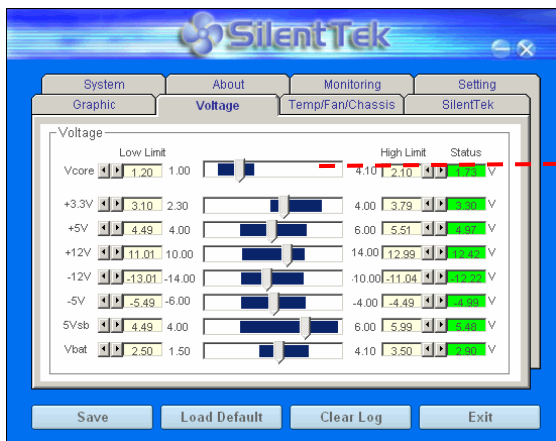
You may check your system voltage from the indicating bar here.

In "Temp/Fan/Case" page, you can get aware of the current temperature of CPU and the heat inside chassis. Also, you can check if fans are running properly.
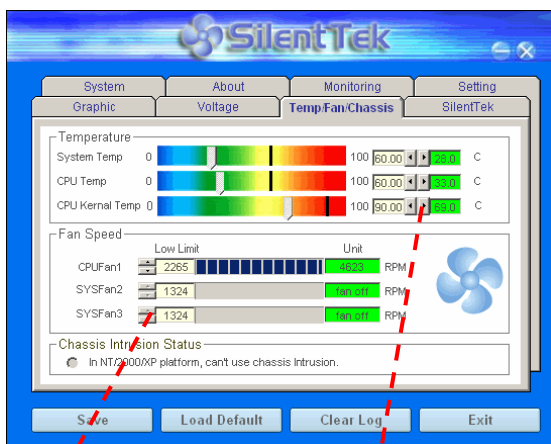
Of course, you can set your defaulted lowest margin for your fans and SilentTek will also pop up a message box to alarm you when the fan is rotating slower than this specified speed.

You can set the highest margin of your CPU and system temperature as default, and SilentTek will pop up a message box to alert you with an alarm when the temperature goes beyond the specified margin.

The following page is surely the most important part of this utility. You can control the rotation speed of specific fans that you have got the options inside this page.
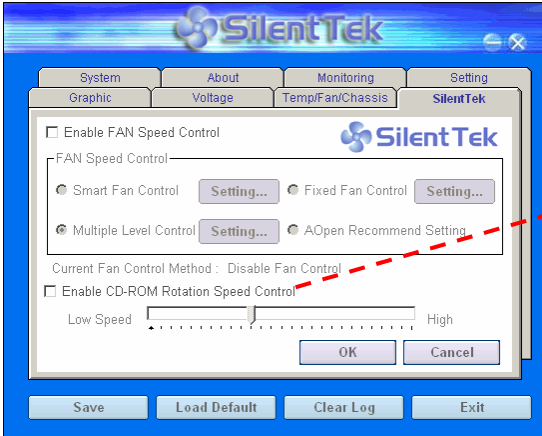
CD-ROM Rotation Speed Control: by enabling the CD-ROM Rotation Speed Control, you can adjust the rotation speed of your CD-ROM. When you set the speed to high level, the CD-ROM will work at its fastest speed and it will run at basic required speed while you set the value to low speed.

Smart FAN Control: This is the default setting of SilentTek and can be used for any branded computer housing. With a special algorithm developed by AOpen, the fan speed is automatically adjusted by the parameters of CPU and ambient temperature which is ease-of-use and trouble free at your service.

Fixed FAN Control: Under this setting, a desired fan speed is set fixed when operating.

Multiple Level Controls: This is the most versatile setting that allows you to set fan speed in relation to temperature. You may find that this setting fits you best.

AOpen Recommend Setting: This setting is designed specifically for AOpen housing. A series of lab tests were conducted under the real world scenario to determine optimum fan speed to reduce noise level within CPU working condition and temperature. Most of the time, the fan would remain still when CPU is not fully utilized.

Note: Due to hundreds brands of fans on market, inaccuracy may happen in some cases when you have your rotation speed adjusted. It is still under the criterion and please rest assured that it won't cause any problem to your system.

Other Useful Features

With excellent design ability of R&D team, AOpen boasts for its various powerful and handy features that come with our product like follows. You are welcomed to visit our technical website to learn more about those features.
http://english.aopen.com.tw/tech/techinside

Chapter 5 Setting BIOS

Introduction

System parameters can be modified by going into BIOS Setup menu; this menu allows you to configure the system parameters and save the configuration into the 128 bytes CMOS area (normally in the RTC chip or in the main chipset).

The Phoenix-Award BIOS™ that installed in the Flash ROM of the motherboard is a custom version of an industry standard BIOS. The BIOS provides critical low-level support for standard devices such as hard disk drives, serial and parallel ports.

AOpen's R&D engineering team had optimized most BIOS settings of this motherboard. However, some default settings of BIOS cannot fine-tune those sections that controlled by chipset. Therefore, this chapter is intended to guide you and help you to configure some other settings.

To enter BIOS setup menu, press <Del> when POST (Power-On Self Test) screen is shown on your monitor.

Note: Because BIOS code is the most often changed part on motherboard, the BIOS information contained in this manual may be different from the BIOS version that comes with your motherboard.

How To Use Phoenix-Award™ BIOS Setup Program

Generally, you can use arrow keys to highlight items that you want to choose, press <Enter> key to select, and use <Page Up> and <Page Down> keys to change setting values. You can press <Esc> key to quit Phoenix-Award™ BIOS setup program. The following table provides details about how to use keyboard in the Phoenix-Award ™ BIOS setup program. Alternatively, it's strongly recommended to install AOpen's newest WinBIOS Utility to get more detailed description, further powerful functions and advanced setting of BIOS.

Key	Description
Page Up or +	Change setting to next value or increase the value.
Page Down or -	Change setting to previous value or decrease value.
Enter	Select the item.
Esc	In main menu: Quit without saving any changes. In sub menu: Exit current menu to main menu.
Up Arrow	Highlight previous item.
Down Arrow	Highlight next item.
Left Arrow	Move the light bar to left side of menu.
Right Arrow	Move the light bar to right side of menu.
F6	Load Setup Default setting value from CMOS.
F7	Load turbo setting value from CMOS.
F10	Save changed settings and exit setup program.

How To Enter BIOS Setup

After finishing the jumper settings and connecting cables, you can power on and enter the BIOS Setup. Press <Del> during POST (Power-On Self Test) and choose "Load Setup Defaults" for recommended optimal performance.

Warning: *Please avoid of using "Load Turbo Defaults", unless you are certain your system components (CPU, SDRAM, HDD, etc.) are good enough for turbo setting.*
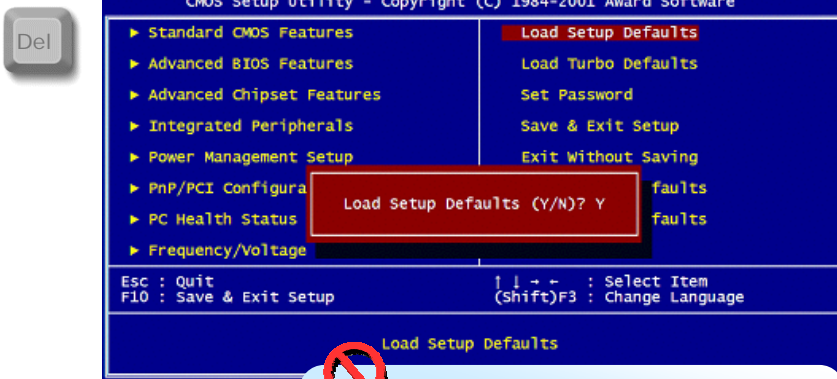
BIOS Upgrade under Windows environment

With outstanding R&D ability of AOpen, we now bring you a whole new BIOS Flash wizard ---- EzWinFlash. With an eye to convenience for users, EzWinFlash combines the BIOS binary code and flash module together, so the only thing you have to do is just clicking on the utility you downloaded from web and let it help you complete the flash process automatically. EzWinFlash detects your motherboard and checks the BIOS version cleverly to prevent your system from any possible failure. Moreover, EzWinFlash has been taken into consideration to go with any windows platform you might be using, no matter if you're using Windows 98, 98SE/ME, NT4.0/2000, or Windows XP.

In the meanwhile, in order to provide a much more user-friendly operating environment, AOpen EzWinFlash is natively designed to have multi-language function to provide easier way for user in changing BIOS setting.
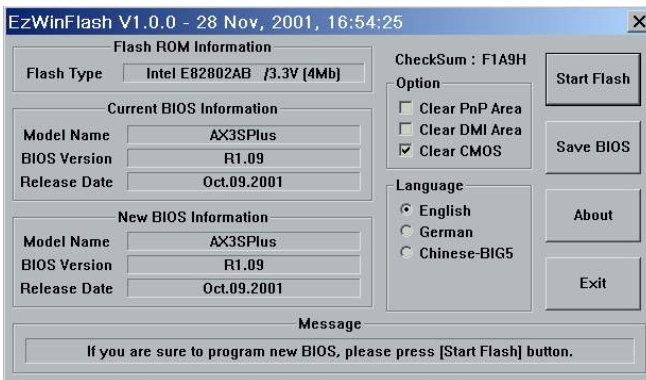
> 🚫 **Caution:** *You are taking a risk of BIOS flash failure when you update your system. If your motherboard is working stable, and there are no major bugs to be fixed by a latter BIOS revision, we recommend that you **DO NOT** upgrade your BIOS. If you intent on upgrade **PLEASE MAKE SURE** you get the right BIOS revision for your motherboard model so as to avoid any possible failure.*

Note: The model name on this BIOS picture is for reference only. It may not be the same model with your motherboard.

You may accomplish BIOS upgrade procedure with EzWinFlash according to following steps, and it's STRONGLY RECOMMENDED to close all applications before you start the upgrades.

Download the latest version of BIOS package zip file from AOpen official web site. (Ex: http://english.aopen.com.tw/)

Unzip the downloaded BIOS package (ex: N250AFR102.ZIP) with WinZip (http://www.winzip.com) in Windows environment.

Save the unzipped files into a folder, for example, N250AFR102.EXE & N250AFR102.BIN.

Double click N250AFR102.EXE; EzWinFlash will detect the model name and BIOS version of your motherboard. If you collect wrong BIOS, you will not be allowed to proceed with the flash steps.

You may select a preferred language in main menu, then click [Start Flash] to begin the BIOS upgrade procedure.

EzWinFlash will complete all the process automatically, and a dialogue box will pop up to ask you to restart Windows. Click [YES] to reboot Windows.

Press <Del> at POST to enter BIOS setup screen; choose "Load Setup Defaults", then "Save & Exit Setup". Done!

It is strongly recommended NOT to turn off the power or run any applications during FLASH PROCESS.

Warning: The new BIOS upgrade will permanently replace your original BIOS setting when flashing. You may need to reconfigure the BIOS setting before your system goes back to work as normal.

WinBIOS Utility (only for n250a-FR)

In the past, users have to keep punching the DEL key during POST (Power-On-Self-Test) screen to get into the BIOS, which is inconvenient and clumsy. From now on, AOpen provides an easier way to configure your BIOS. WinBIOS is a customized utility, running exclusively on AOpen motherboards, to allow you setting up BIOS under Windows environment. Designed to remain traditional-BIOS-alike interface, you can adjust BIOS parameter with clear descriptions for every item.

WinBIOS is natively designed with multi-language support. There are various widely-used languages provided on our website for you to download, which also helps to prevent wrong settings caused by misunderstanding of the languages. The only thing you have to do is to visit our official website and download your respective language pack (of few KB size), then double-click on it to activate the support with your chosen language.

Moreover, with high scalability, either for newly bought motherboard or the latest BIOS version with new function, you don't have to re-install the whole program again and again. All you have to do is to grab the latest profile from our website, double-click on the profile. You don't have to spend any extra effort to have your motherboard supported by WinBIOS.
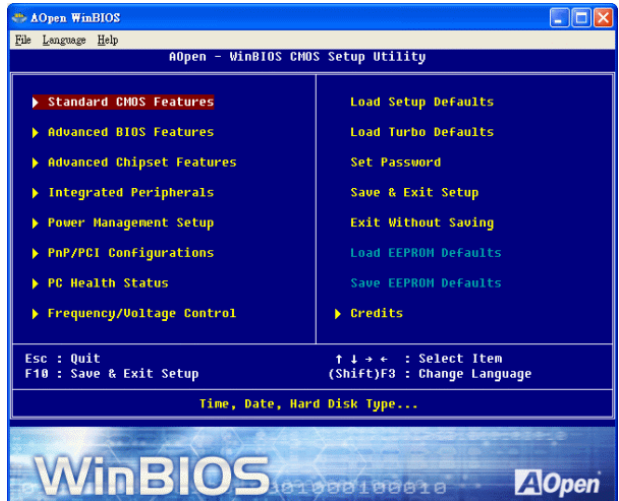
Function keys:

It's rather easy to handle WinBIOS as if you're using traditional BIOS setting. Users can use the arrow keys such as ⬆⬇⬅➡ to move around items in WinBIOS screen. And use PGUP PGDN, "+" or "-" to change the setting value. Press ESC to go back to previous screen. Furthermore, the hotkeys shown in the table may help you and save your time. Some settings may not come into effect until you reboot your system.

Hotkey	Function Description
F1	Get help description.
F2	Item Help
F3	Changing menu language.
F5	Load previous setting
F6	Load setup default setting
F7	Load turbo setting
F10	Save changed setting and exit setup program.
F12	Full Screen / Normal Mode

Caution: After updating your BIOS, please remember to update WinBIOS profile as well. If the upgraded BIOS version is newer than WinBIOS profile, WinBIOS will not be able to launch and a dialog box of error message will pop up. This verification is designed on purpose to protect your BIOS from being damaged by wrong profile version.
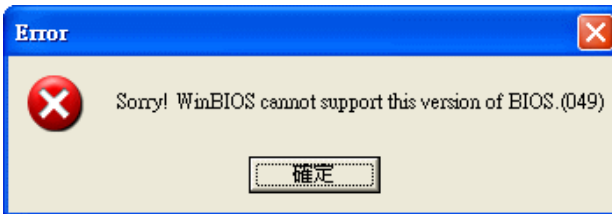
For the latest WinBIOS profile and language pack modules, you can find them on AOpen official web site:

(*http://download.aopen.com.tw/downloads/default.asp*)

> **Note:** *Because BIOS versions are updated in an extremely fast speed, it is strongly recommended to download the latest BIOS version and WinBIOS profile from our website upon receipt of the motherboard.*

Vivid BIOS technology

Vivid BIOS

Have you been fed up with the conservative and immutable POST screen? Let's rule out the tradition idea that POST screen are stiff and frigid, and let AOpen show you the newly developed VividBIOS to experience the lively vivid colorful POST screen!

Unlike earlier graphic POST screen which could occupy the whole screen and mask text information during POST, AOpen VividBIOS deals with graphics and texts separately, and makes them running simultaneously during POST. With this innovative design, VividBIOS now brings you a beautiful and sleek 256 colors screen without missing any important information shown on POST screen.

In addition, the limited space of BIOS ROM is another big issue. When all of the traditional BIOS can only show space-consuming and uncompressed Bitmap, AOpen has considerately tuned the BIOS to next generation, to recognize the smaller-sized GIF format and even dynamic-showing GIF animation.

AOpen vivid BIOS

Vivid BIOS shares the same fundamental technology with Open JukeBox CD Player, you may use the same EzSkin utility to change your VividBIOS screen or to download your favorite Open JukeBox skin. If you see this little logo shown beside your model name on the motherboard download page, *http://english.aopen.com.tw/tech/ezskin/vivid.htm*, it is assured that your motherboard supports this innovative feature!

Chapter 6 Installing Drivers

There are motherboard drivers and utilities included in AOpen Bonus CD. You don't need to install all of them in order to boot your system. But after you finish the hardware installation, you have to install your operation system first (such as Windows XP) before you can install any drivers or utilities. Please refer to your operation system's installation guide.

6.1 Auto-run Menu from Bonus CD

You can use the auto-run menu of Bonus CD. Choose the utility and driver and select model name
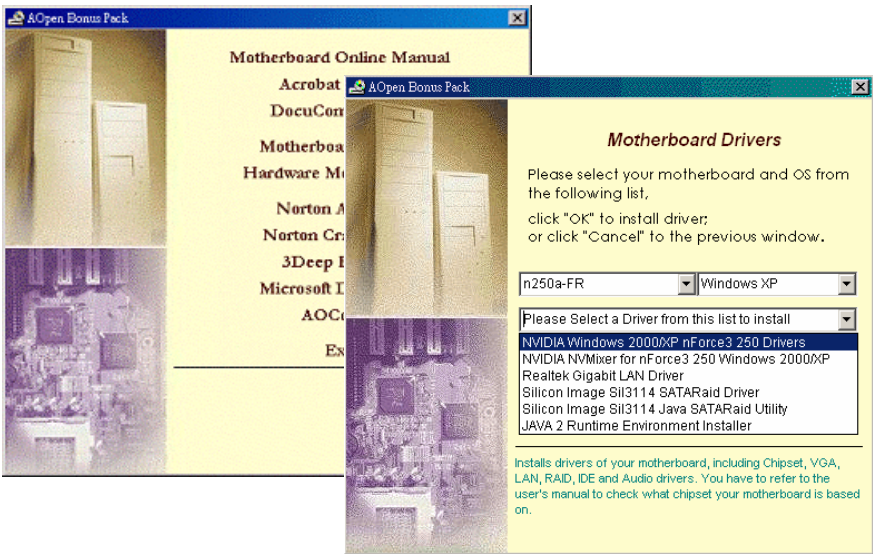
6.2 Installing NVIDIA Windows nForce Drivers

You can install NVIDIA Windows nForce drivers from the Bonus Pack CD auto-run menu.

6.3 Installing NVIDIA NvMixer Driver

You can install NVIDIA NvMixer Driver for nForce3 250 from the Bonus Pack CD auto-run menu.
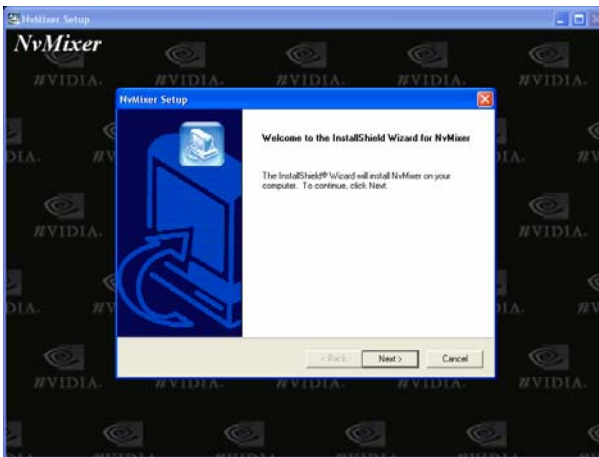
6.4 Installing Gigabit LAN Driver (for n250a-FR and n250a-L)

On the strength of Realtek Gigabit LAN controller on board, this motherboard provides 10/100/1000 Mbps Ethernet for office and home use. You can install the LAN driver from the Bonus Pack CD auto-run menu.
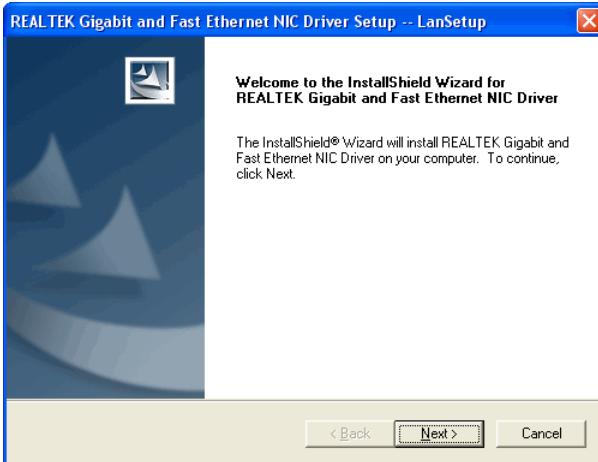
6.5 Installing LAN Driver for n250a

For n250a motherboard, it provides 10/100 Mbps Ethernet for office and home use. You can install the LAN driver from the Bonus Pack CD auto-run menu.
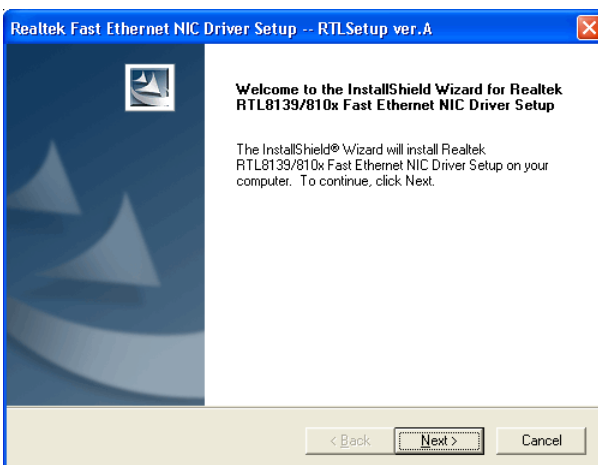
6.6 Installing USB2.0 Driver

This motherboard comes with USB2.0 function. For Windows 98SE and Windows ME you need to install USB2.0 Driver from the Bonus Pack CD auto-run menu.

6.7 Installing NVidia SATA RAID Driver

This mother board comes with two serial ATA ports (SATA port1 and SATA port2) provided by nForce3 250 chipset. When you install NVIDIA Windows nForce drivers, you have also installed SATA RAID driver at the same time. So you don't have to install SATA RAID driver again.

> *Note: Building RAID 0 or RAID 1 in Windows 2000, user needs to update Windows 2000 to Service Pack 4 for smooth operation.*

6.8 Installing Silicon Image 3114 SATARaid Driver (for n250a-FR only)

1) Windows NT 4.0 and Windows 2000/XP Fresh Installation

Follow the instructions in this section if you are performing a new installation of Windows NT 4.0 or Windows 2000/XP, and you wish to boot from a device attached to the SiI 3114 controller.

1. Power off the system. Connect the hard drives to the SiI 3114 controller and insert the controller into a PCI slot. Power up the system.

2. Put your Windows NT/2000/XP CD into the CD-ROM/DVD drive, or the NT/2000/XP boot diskette #1 in the floppy drive if your system cannot boot from the CD.

3. Press F6 for third party SCSI or driver installation at the beginning of text mode installation. Press's' when setup asks if you want to specify an additional device, and insert the diskette labeled 'Silicon Image SiI 3114 SATARaid Driver Installation Disk'. Press 'Enter' and select 'Silicon Image SiI 3114 SATARaid Controller'.

4. Press 'Enter' to continue on with text mode setup.

5. Follow the setup instructions to select your choice for partition and file system.

6. After setup examines your disks, it will copy files to Windows 2000 installation folders and restart the system. The setup program will continue and finish the installation after restart.

7. Wait until Windows 2000 finishes installing devices, regional settings, networking settings, components, and final set of tasks, reboot the system if it is required.

8. See instructions in section 4 to verify controller was installed correctly.

2) Adding the SiI RAID controller to an existing Windows NT 4.0 installation

Follow the instructions in this section to install the Silicon Image SiI 3114 driver on a system already running Windows NT 4.0.

1. Power off the system. Connect the hard drives to the SiI 3114 controller and insert the controller into a PCI slot. Power up the system.

2. After OS boots up, Click 'Start'.

3. Under 'Settings', click 'Control Panel'.

4. Select 'SCSI Adapters' from the Control Panel.

5. Select the 'Drivers' tab and click 'Add'.

6. Click 'Have Disk'.

7. Insert the diskette labeled ' Silicon Image SiI 3114 SATARaid Driver Installation Disk' into A: and press 'Enter'.

8. Choose 'Silicon Image SiI 3114 SATARaid Controller' and click 'OK'.

9. See instructions in section 4 to verify controller was installed correctly.

3) Adding the SiI RAID controller to an existing Windows 2000/XP installation

Follow the instructions in this section to install the Silicon Image SiI 3114 driver on a system already running Windows 2000.

1. Power off the system.   Connect the hard drives to the SiI 3114 controller and insert the controller into a PCI slot. Power up the system.

2. During OS boot up, Windows 2000 will display the 'Found New Hardware Wizard'. Click 'Next'.

3. Select 'Search for a suitable driver for my device (Recommended)' and Click 'Next'.

4. Under 'Optional search locations' insure that 'Floppy disk drives' is checked.

5. Insert the diskette labeled 'Silicon Image SiI 3114 SATARaid Driver Installation Disk' into A: and click 'Next'.

6. When the wizard indicates that it found a driver for the device click 'Next'.

7. If the 'Digital Signature Not Found' dialog appears, click 'Yes' to continue installing the driver.

8. The wizard will now copy the required files to the system and start the driver. After starting the driver the wizard will display a completion dialog, click 'Finish' to exit the wizard.

9. See instructions in section 4 to verify controller was installed correctly.

4) Verifying controller installation under Windows NT, 2000 and XP

Follow the instructions in this section to verify that the controller was installed correctly.

For Windows 2000/XP

1. Right click on 'My Computer' icon, select 'Properties', left click on 'Hardware' tab, and then on 'Device Manager' button.

2. Double click on 'SCSI and RAID Controllers', If there is no yellow '! 'or '? ' in front of 'Silicon Image SiI 3114 SATARaid Controller', the driver is started correctly.

3. To view information about the devices attached to the controller, use the SiICfg Utility and click on the device from the list.

For Windows NT 4.0

1. Double click on 'My Computer' icon, select 'Control Panel', click on 'SCSI Adapters' icon, 'Silicon Image SiI 3114 SATARaid Controller' should displayed correctly under 'Device' and 'Driver' tab.

2. To view information about the devices attached to the controller, use the SiICfg Utility and click on the device from the list.

5) Update SiI RAID driver on Windows NT 4.0 with existing Silicon Image driver

1. After OS boots up, Click 'Start'.

2. Under 'Settings', click 'Control Panel'.

3. Select 'SCSI Adapters' from the Control Panel.

4. Select the 'Drivers' tab and click 'Add'.

5. Click 'Have Disk'.

6. Insert the diskette labeled 'Silicon Image SiI 3114 SATARaid Driver Installation Disk' into A: and press 'Enter'.

7. Choose 'Silicon Image SiI 3114 SATARaid Controller' and click 'OK'.

8. Refer to instructions in section 4 to verify controller was installed correctly.

6) Update SiI RAID driver on Windows 2000/XP with existing Silicon Image driver

With the Silicon Image controller already plugged in and the driver already installed.   Follow the instructions to update SiI RAID driver.

1. Right click on 'My Computer' and select 'Properties'. Under the 'System Properties' section, click on 'Hardware' tab, and then on 'Device Manager' click 'SCSI and RAID Controller' and right click 'Silicon Image Ultra-133 Medley ATA Raid Controller'.

2. Click 'Driver','Update Driver' and select 'Search for a suitable driver for my

device [Recommended]'. Insert the driver diskette into floppy drive. Click 'Next' and complete the driver installation.

3. System will go through the enumeration process and install the driver. At the end of the process, click 'Yes' to reboot your system when necessary.

4. See instructions in section 4 to verify controller was installed correctly.

7) Windows 98SE and Windows ME Fresh Installation Instructions

Follow the instructions in this section if you are performing a new installation of Windows 98SE/ME and you wish to boot from a device attached to the SiI 3114 controller.

You may start up the Windows 98SE/ME installation from CD. If either your Windows 98SE/ME CD or CD-ROM drive is not bootable, your can start up with floppy diskettes.

1. Power off the system.   Connect the hard drives to the SiI RAID controller and insert the controller into a PCI slot. Power up the system

2. Put your Windows 98SE/ME CD into the CD-ROM/DVD drive, and the Windows 98SE/ME boot diskette in the floppy drive if your system cannot boot from the CD.

3. Follow the normal Windows 98SE/ME setup instructions to select your choice for partition and file system.

4. Wait until Windows 98SE/ME finishes installing devices, regional settings, networking settings, components, and final set of tasks, reboot the system.

5. After the system reboot, right click on 'My Computer' and select 'Properties'. From the 'System Properties', select 'Device Manager', right click on the '? PCI RAID controller' and select 'Properties' from the pop-up menu.

6. Click 'Driver','Update Driver' and select 'Automatic search for a better driver [Recommended]'. Insert the driver diskette into floppy drive. Click 'Next' and complete the driver installation.

7. System will go through the enumeration process and install the driver.   At the end of the process, click 'Yes' to reboot your system.

8. See instructions in section 4 to verify controller was installed correctly.

8) First time installing SiI RAID driver with existing Windows 98SE/ME

If you have an existing Windows 98SE/ME system and just obtained a Silicon

Image SiI 3114 controller card, you need to run the update program to install Silicon Image driver. The driver package is located in the Silicon Image driver diskette or the diskette provided by OEM vendor.

1. Power off the system. Connect the hard drives to the SiI 3114 controller and insert the controller into a PCI slot. Power up the system.

2. During the system boot up, the Hardware Wizard will display that it found a ' PCI RAID Controller', click ' Next'. Select ' Search for the best driver for your device [Recommended]' and click ' Next'.

3. Check the ' Floppy disk drives' and insert the driver diskette into floppy drive. Click ' Next'.

4. System will go through the enumeration process and install the driver. At the end of the process, click ' finish' to complete the installation. Reboot the system if your Windows 98SE/ME drive is connected on the SiI RAID Controller.

5. See instructions in section 4 to verify controller was installed correctly.

9) Update SiI RAID driver on Windows 98SE/ME with existing Silicon Image driver

With the Silicon Image controller already plugged in and the driver already installed. Follow the instructions to update SiI 3114 driver.

1. Right click on 'My Computer' and select 'Properties'. Under 'System Properties', click 'SCSI and RAID Controller' and right click 'Silicon Image Ultra-133 Medley ATA Raid Controller'.

2. Click 'Driver','Update Driver' and select 'Automatic search for a better driver [Recommended]'. Insert the driver diskette into floppy drive. Click 'Next' and complete the driver installation.

3. System will go through the enumeration process and install the driver. At the end of the process, click 'Yes' to reboot your system.

4. See instructions in section 4 to verify controller was installed correctly.

6.9 Installing Silicon Image 3114 Java SATARaid Utility (for n250a-FR only)

You can install Silicon Image 3114 Java SATARaid Utility from the Bonus Pack CD auto-run menu.
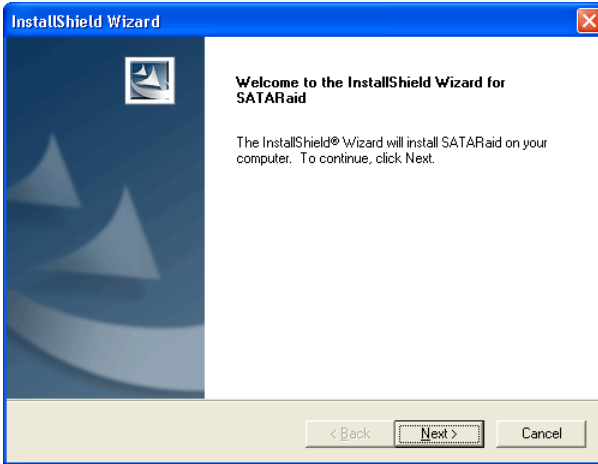
6.10 JAVA 2 Runtime Environment Installation (for n250a-FR only)

The Java 2 Runtime Environment is required for the SATARaid GUI. You can install it from the Bonus Pack CD auto-run menu.

TroubleShooting

Start

Turn off the power and unplug the AC power cable, then remove all of the add-on cards and cables including VGA, IDE, FDD, COM1, COM2, printer and other external devices.

Clear CMOS and then plug the ATX Power cord. (For P4 system, please connect the 4-pin (+12V) cord before ATX cord is connected.)

Install VGA card*1, connect monitor and keyboard.

Yes → Turn on the power and check if the power supply, power fan and CPU fan work properly.

No → Perhaps your memory is not compatible with the system, or either your VGA card*2 or monitor is out of order.

Yes → Check if there is display

No → The problem maybe caused by power supply/motherboard failure. Please contact your reseller or your distributor for repairing.

Press Del to enter BIOS setup, and choose "Load Setup Default". (For AMD user, please make sure you set the right CPU frequency in BIOS) Save the changes you make in BIOS and reboot the system.

Yes → Turn on the system again and re-connect the IDE cable. Check if the system can reboot successfully.

No → The problem maybe caused by the IDE cables or HDD itself.

Reinstall operating system such as Windows 2000 or Windows XP.

End

*1 The VGA card is not necessary to be installed if your monitor is connected to the onboard VGA port.
*2 If you connect to the onboard VGA port and no screen displays, then your onboard VGA device might have problem.

Chapter 8 Technical Support

Dear Customer,

Thanks for choosing AOpen products. We invite you to register at *http://www.aopen.com* to become a Gold Member of Club AOpen so as to ensure quality service in the future. In order to maintain the best service to every customer of us, we recommend you to follow the procedures below and seek help from our branches according to the region you buy the product. With your help, we can then continue to provide efficient and the best quality service to every customer.
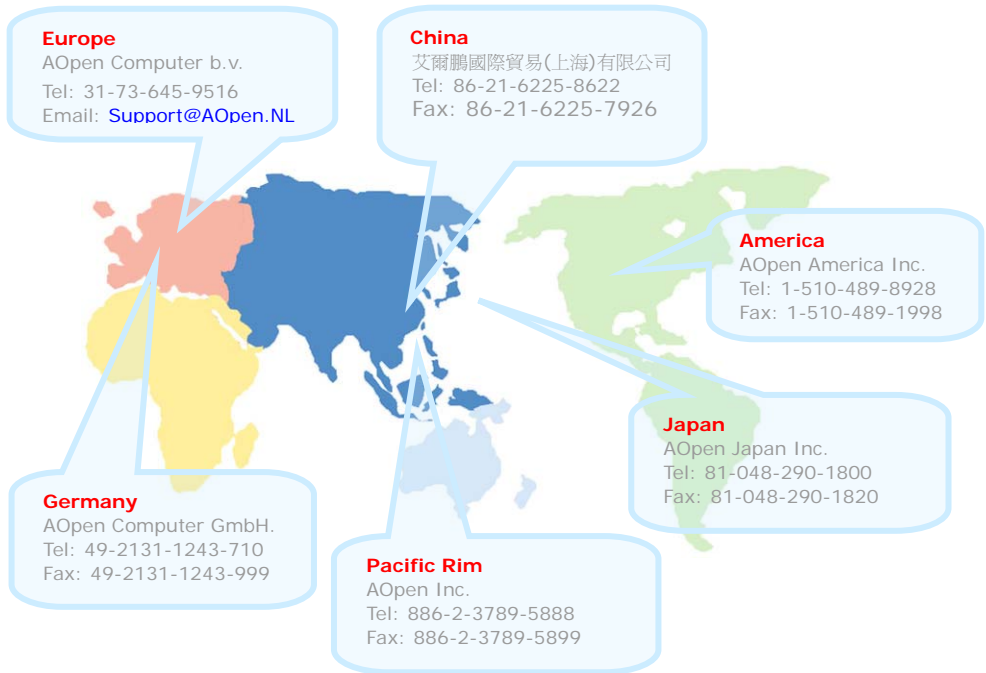
Thanks very much for your understanding!

AOpen Technical Supporting Team

Europe
AOpen Computer b.v.
Tel: 31-73-645-9516
Email: Support@AOpen.NL

China
艾爾鵬國際貿易(上海)有限公司
Tel: 86-21-6225-8622
Fax: 86-21-6225-7926

America
AOpen America Inc.
Tel: 1-510-489-8928
Fax: 1-510-489-1998

Japan
AOpen Japan Inc.
Tel: 81-048-290-1800
Fax: 81-048-290-1820

Germany
AOpen Computer GmbH.
Tel: 49-2131-1243-710
Fax: 49-2131-1243-999

Pacific Rim
AOpen Inc.
Tel: 886-2-3789-5888
Fax: 886-2-3789-5899

Europe Email:	*Support@AOpen.NL*
Pacific Rim:	*http://www.aopen.com.tw/tech/default.htm*
China:	*http://www.aopen.com.cn/tech/default.htm*
Germany:	*http://www.aopencom.de/tech/default.htm*
America:	*http://usa.aopen.com/tech/default.htm*
Japan:	*http://www.aopen.co.jp/tech/default.htm*

Model Name and BIOS Version

Model name and BIOS version can be found on upper left corner of first boot screen (POST screen). For example:

Phoenix AwardBIOS v6.00PG, An Energy Star Ally

Copyright (C) 2003, Phoenix Technologies, LTD.

n250a-FR   R1.02 Mar. 01. 2004 AOpen Inc.
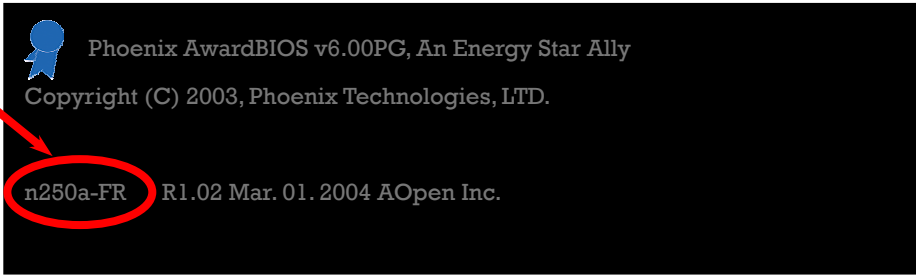
n250a-FR is model name of motherboard; R1.02 is BIOS version

Register Your Motherboard

Thanks for choosing AOpen product, please register this motherboard at http://club.aopen.com.tw/productreg/ to become a Gold member of Club AOpen, and to ensure high service quality and priority from AOpen. You will also have a chance to play slot machine game to win prize from AOpen. Please prepare the following information before you start: Model Name, Part Number (P/N), Serial Number (S/N) and Purchase Date. The Part Number and Serial number are printed on bar code label. You can find this bar code label on the outside packing or on component side of PCB. For example:

918811020191949378KN73

Part No.   Serial No.

P/N: 91.88110.201 is part number, S/N: 91949378KN73 is serial number.

Phoenix-Award BIOS ERROR Message	
Beep Sound	Message
1 short(Beep)	System booting is normally.
1 long - 1 short(Beep)	DRAM ERROR
1 long - 2 short(Beep)	Display card or monitor connected error
1 long - 3 short(Beep)	Keyboard Error
Long(Beep) continuous	DRAM hasn't inset correctly.

Online Manual: To download manual, please log on and then select your preferred language. Under "Type" directory, choose "Manuals" to go to our manual database. You can also find the manual and EIG in AOpen Bonus Pack.
http://download.aopen.com.tw/downloads

Test Report: We recommend you to choose board/card/device from the compatibility test reports for assembling your PC. It may prevent incompatibility problems.
http://english.aopen.com.tw/tech/report/default.htm

FAQ: Here we list problems that users often encounter and FAQ (Frequently Asked Questions). You may select your preferred language after log on, and may be able to find a solution to your problem.
http://club.aopen.com.tw/faq/

Download Software: After log on and having language selected, you may get the latest updated BIOS/utility and drivers you need under "Type" directory. In most case, newer versions of drivers and BIOS have solved earlier bugs or compatibility problems.
http://download.aopen.com.tw/downloads

eForum: AOpen eForum is provided to discuss our products with other users, in which your problem probably had been discussed before or will be answered. After log on, you may select your preferred language under "Multi-language".
http://club.aopen.com.tw/forum

Contact Us: Please prepare detail system configuration and error symptom before contacting us. The part number, serial number and BIOS version are also very helpful.

Contact Distributors/Resellers: We sell our products through resellers and integrators. They should know your system configuration very well and should be able to solve your problem efficiently and provide important reference for you.