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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.

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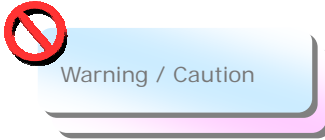
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1.2 Features of This Manual

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:



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



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



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.



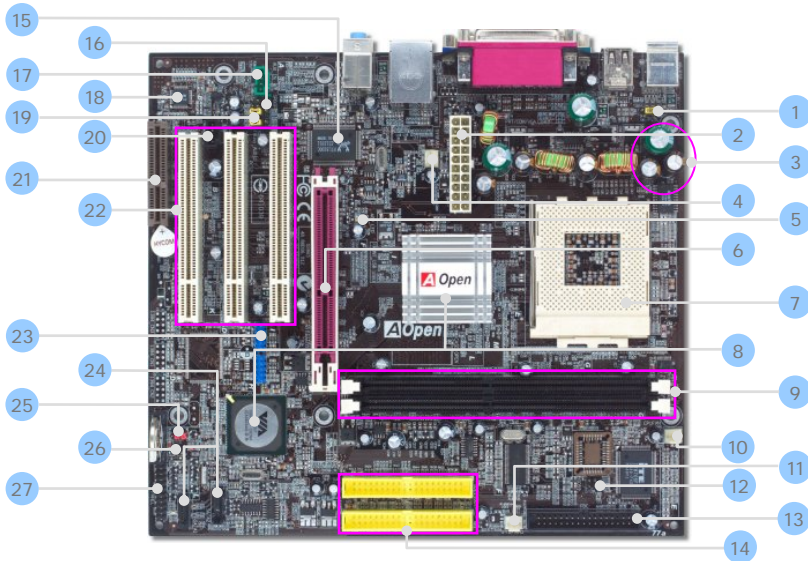
Always unplug the power before you make any jumper setting.



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?



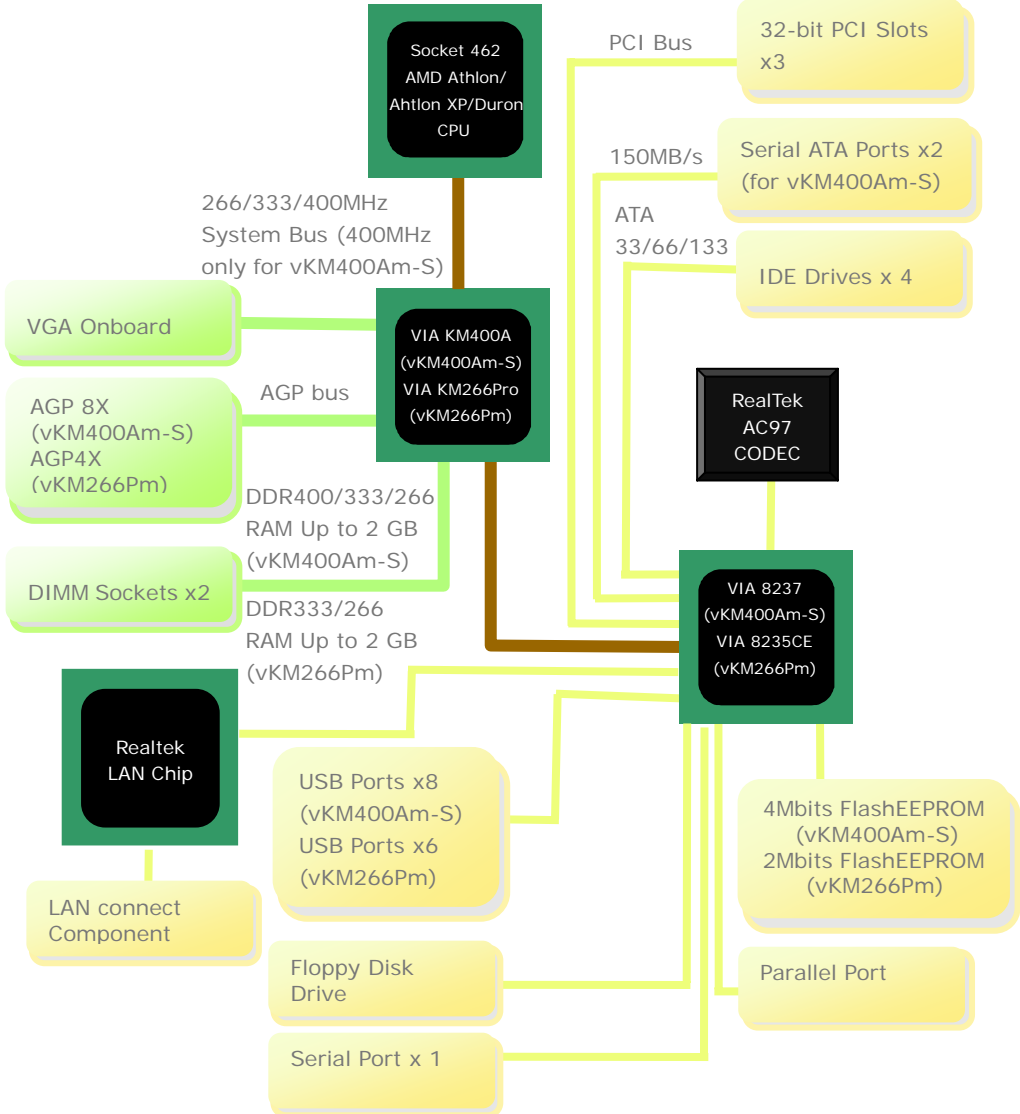
1. JP28 PS2 KB/Mouse Wakeup Jumper	15. RealTek 10/100 Mbps LAN Chip
2. ATX Power Connector	16. S/PDIF Connector
3. Low ESR Capacitors	17. AUX-IN Connector
4. SYSFAN1 Connector	18. Onboard AC'97 CODEC
5. AGP Protection LED	19. Front Audio Connector
6. AGP 8X Expansion Slot (vKM400Am-S) AGP 4X Expansion Slot (vKM266Pm)	20. CD-IN Connector
7. 462-pin CPU socket supporting AMD Athlon™ / Athlon™XP / Duron CPU	21. CNR Expansion Slot
8. VIA KM400A / VIA 8237 Chipsets (vKM400Am-S) VIA KM266Pro / VIA 8235CE Chipsets (vKM266Pm)	22. 32-bit PCI Expansion Slots X 3
9. 184-pin DIMMs X 2	23. USB2.0 Connectors X 2 (vKM400Am-S) USB2.0 Connector X 1 (vKM266Pm)
10. CPUFAN Connector	24. Serial ATA Ports X 2(only for vKM400Am-S)
11. SYSFAN2 Connector	25. JP14 CMOS Data Clear Jumper
12. IrDA Connector	26. Case Open Connector
13. FDD Connector	27. Front Panel Connector
14. IDE Connectors x 2	

2.2 Specification

Here is the main function of your motherboard.

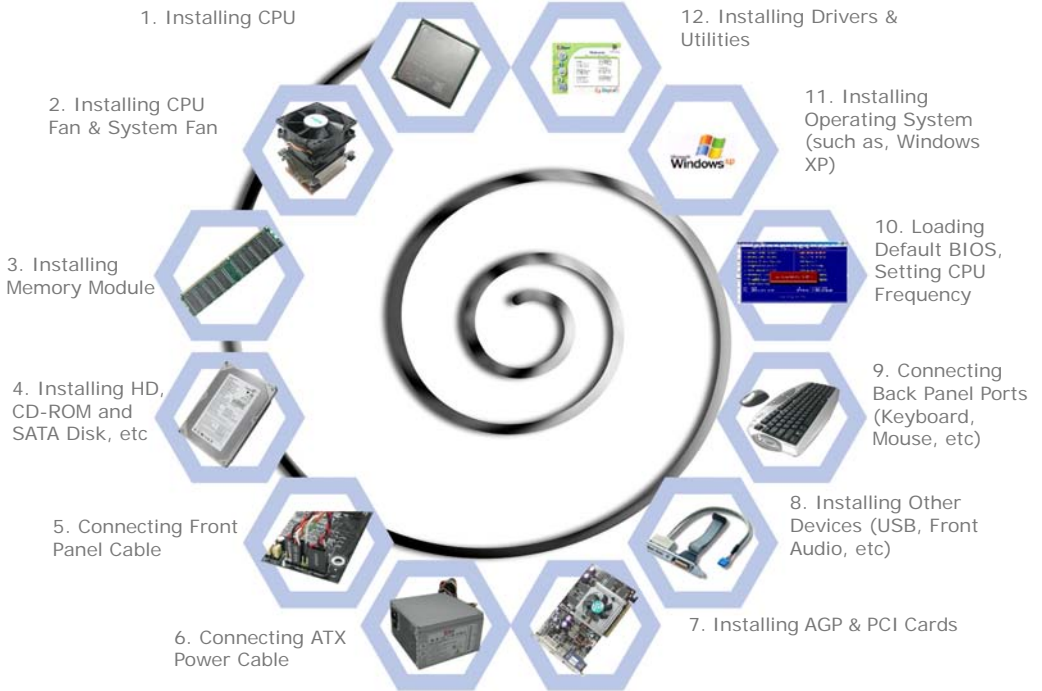
Models	vKM400Am-S	vKM266Pm
CPU	AMD Athlon XP™ / Athlon™ / Duron CPU Socket A FSB400 MHz/333MHz/266MHz	AMD Athlon XP™ / Athlon™ / Duron CPU Socket A FSB 333 MHz/266MHz
Chipset	VIA KM400A / VIA 8237	VIA KM266Pro / VIA 8235CE
Main Memory	DDR 266/333/400MHz DDR DIMM x 2 DIMM Type : 64/128/256/512MB &1GB Max Memory : 2GB	DDR 266/333MHz DDR DIMM x 2 DIMM Type : 64/128/256/512MB & 1GB Max Memory : 2GB
Graphics	Integrated VGA Engine in chipset 8X AGP slot	Integrated VGA Engine in chipset 4X AGP slot
IDE	Integrated ATA133 and Serial ATA Controller Max Disk: 144,000,000GB [by 48 bits LBA Spec.]	Integrated ATA133 Controller Max Disk: 144,000,000GB [by 48 bits LBA Spec.]
LAN	Realtek 10/100 Mbps PCI LAN Chip	Realtek 10/100 Mbps PCI LAN Chip
Sound	Realtek AC'97 CODEC onboard, support 5.1 Channel	Realtek AC'97 CODEC onboard, support 5.1 Channel
USB	Integrated in chipset, USB 2.0 x 8	Integrated in chipset, USB 2.0 x 6
Slots	AGP x 1 PCI x 3 CNR x 1	AGP x 1 PCI x 3 CNR x 1
Back Panel I/O	PS/2 Keyboard x 1, PS/2 Mouse x 1 USB Port x 4, LAN Port x 1, VGA Port x 1, COM Port x 1, Printer Port x 1 Speaker_Out x 1, Line_In x 1, MIC_In x1	PS/2 Keyboard x 1, PS/2 Mouse x 1 USB Port x 4, LAN Port x 1, VGA Port x 1, COM Port x 1, Printer Port x 1 Speaker_Out x 1, Line_In x 1, MIC_In x1
On Board Connector	Floppy Driver Connector x 1 IDE Channel: ATA133 x 2 Serial ATA Channel x 2 Front Panel x 1 Front Audio x 1 CPU FAN x 1, System FAN x 2 Case Open Connector x 1 AUX_IN Connector x 1, CD_IN x 1 IrDA x 1, USB Connectors x 2	Floppy Driver Connector x 1 IDE Channel: ATA133 x 2 Front Panel x 1 Front Audio x 1 CPU FAN x 1, System FAN x 2 Case Open Connector x 1 AUX_IN Connector x 1, CD_IN x 1 IrDA x 1, USB Connector x 1
BIOS	Award PnP 4Mb Flash ROM BIOS	Award PnP 2Mb Flash ROM BIOS
Form Factor	Micro ATX	Micro ATX
Board Size	244 mm x 220 mm	244 mm x 220 mm

2.3 Block Diagram



Chapter 3 Hardware Installation

3.1 Quick Installation Procedure



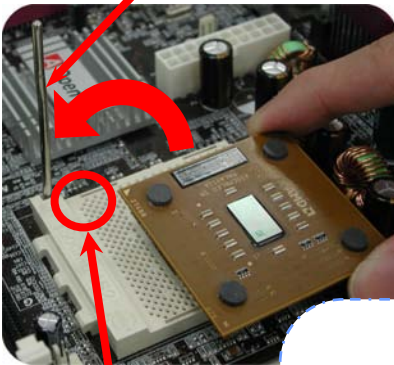
3.2 Installation You Have to Know

Installing CPU

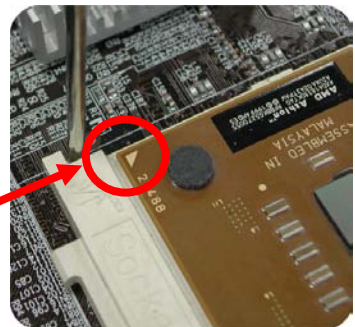
This motherboard supports AMD® Athlon Socket 462 series CPU. Be careful of CPU orientation when you plug it into CPU socket (with CPU Overheat Protection function implemented, the system will be automatically powered off when the temperature of CPU reaches to 97 degree, but it works only on Athlon™XP / Duron CPU).

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



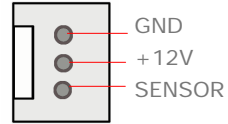
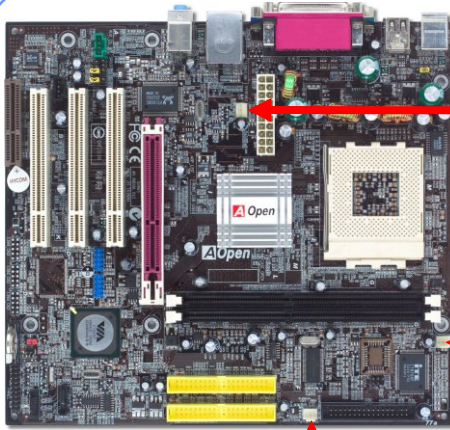
Socket Pin 1



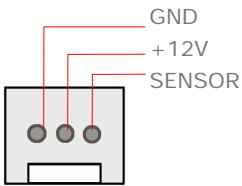
Golden Arrow

Installing CPU and System Fans

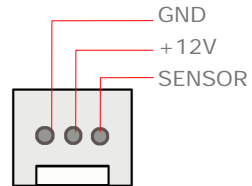
Plug the CPU fan cable to the 3-pin CPUFAN connector. If you have chassis fan, you can also plug it in SYSFAN1 or SYSFAN2 connector.



SYSFAN1 Connector



SYSFAN2 Connector

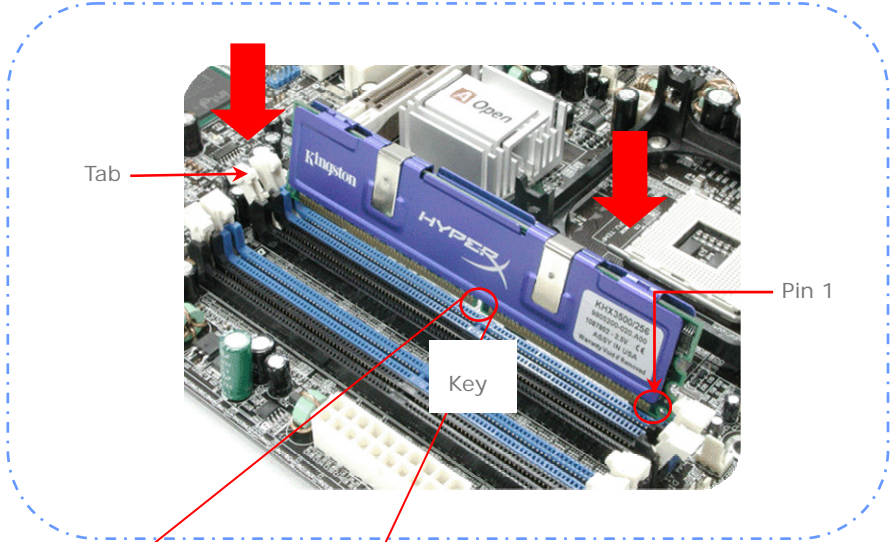


CPUFAN Connector

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

Installing Memory Modules

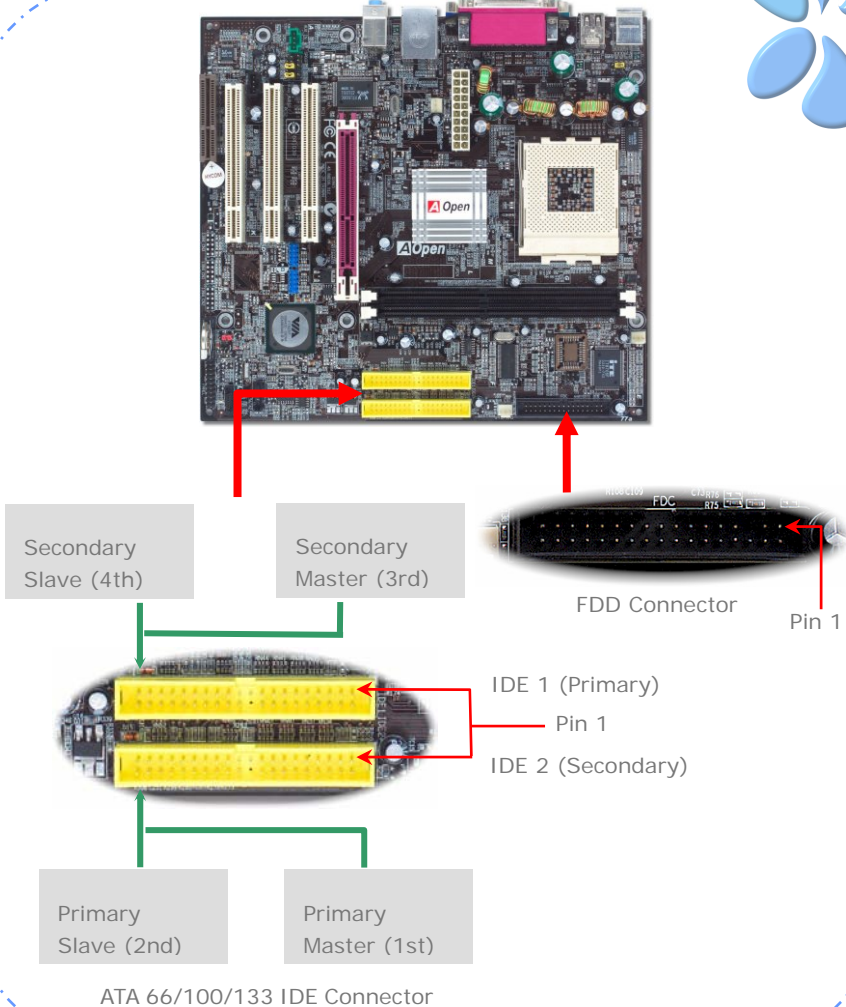
DIMM slots are designed in Black which are very easy to recognize. Insert the module straight down to the DIMM slot with both hands and press down firmly until the DIMM module is securely in place.



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

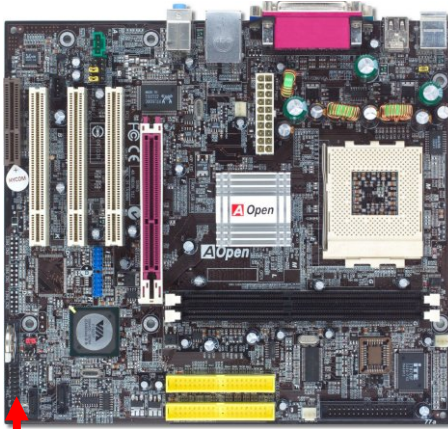
Connect the 34-pin floppy cable and 40-pin, 80-wire IDE cable to floppy connector and IDE connector. Be careful of the pin1 orientation. Wrong orientation may cause system damage.



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.

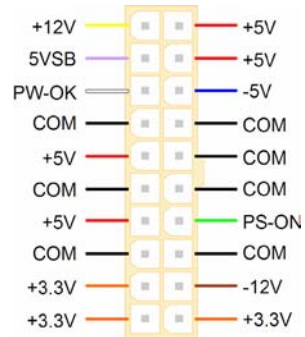
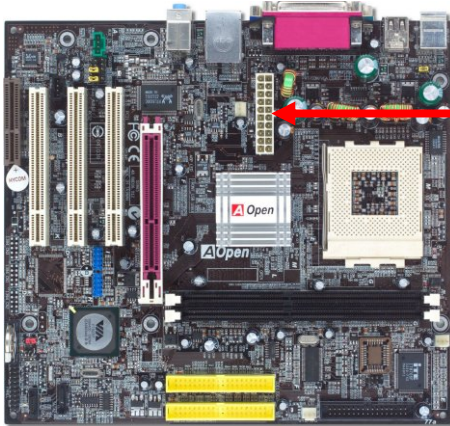


1		
NC		Power Switch
NC		GND
+5V		Power LED-
HDD LED		GND
HDD LED		Power LED+
+5V		NC
+5V		GND
GND		GND
NC		RESET
SPEAKER		GND

Front Panel Connector

Connecting ATX Power Cables

This motherboard comes with a 20-pin connector as shown below. Make sure you plug them in the right direction.



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.

Setting CPU Frequency

This motherboard is CPU jumper-less design, you can set CPU frequency through 1MHz stepping CPU Overclocking in the BIOS. CPU Core Frequency = CPU FSB clock x CPU Ratio. However, all CPU now selling in the market belong to "Fixed Multiplier". That means users can not adjust the CPU Ratio but only change CPU FSB clock to achieve overclocking. **(Users do the overclocking at their own risk!!)**

BIOS Setup > Frequency / Voltage Control > CPU Speed Setup

CPU Ratio	From 5.5x to 16.5x step 0.5x; 17x to 18x step 1x
CPU FSB (Adjustment manually)	FSB= 100MHz-255MHz by 1MHz Stepping CPU Overclocking

CPU	CPU Core Freq.	EV6 Bus Clock	Ratio
Athlon 1.33G	1.33GHz	266MHz	10.0x
Athlon 1.4G	1.4GHz	266MHz	10.5x
AthlonXP 1500+	1.3GHz	266MHz	10.0x
AthlonXP 1600+	1.4GHz	266MHz	10.5x
AthlonXP 1700+	1.46GHz	266MHz	11.0x
AthlonXP 1800+	1.53GHz	266MHz	11.5x
AthlonXP 1900+	1.6GHz	266MHz	12.0x
AthlonXP 2000+	1.667GHz	266MHz	12.5x
AthlonXP 2100+	1.73GHz	266MHz	13x
AthlonXP 2200+	1.80GHz	266MHz	13.5x
AthlonXP 2400+	2.0GHz	266MHz	15x
AthlonXP 2600+	2.13GHz	266MHz	16x
AthlonXP 2500+	1.83GHz	333MHz	11x
AthlonXP 2700+	2.16GHz	333MHz	13x
AthlonXP 2800+	2.083GHz	333MHz	12.5x
AthlonXP 3000+	2.167GHz	333MHz	13x
AthlonXP 3200+	2.2GHz	400MHz	11x

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.



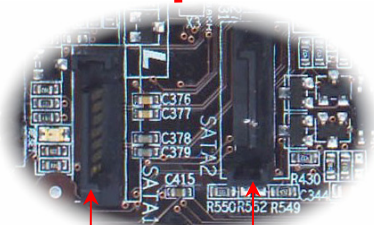
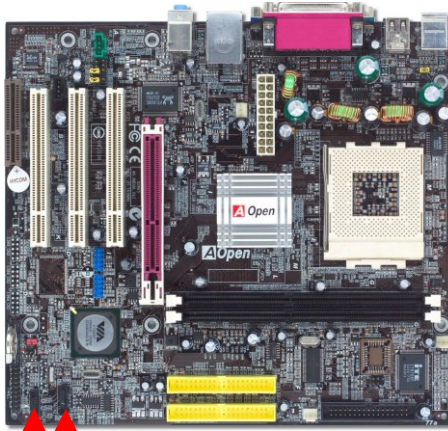
Note: Some CPU fans do not have sensor pin so they cannot support fan monitoring.



Warning: To avoid possible CPU damage caused by overheat, CPU Overheat Protection circuit had been especially designed on this motherboard. System will automatically power off when this motherboard detects the CPU temperature higher than 97 degrees centigrade.

Connecting Serial ATA (only for vKM400Am-S)

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 Port0 (SATA1) will be set as the first boot device automatically. **Please note that it doesn't support Hot-Plug in function.**



SATA1
Port0

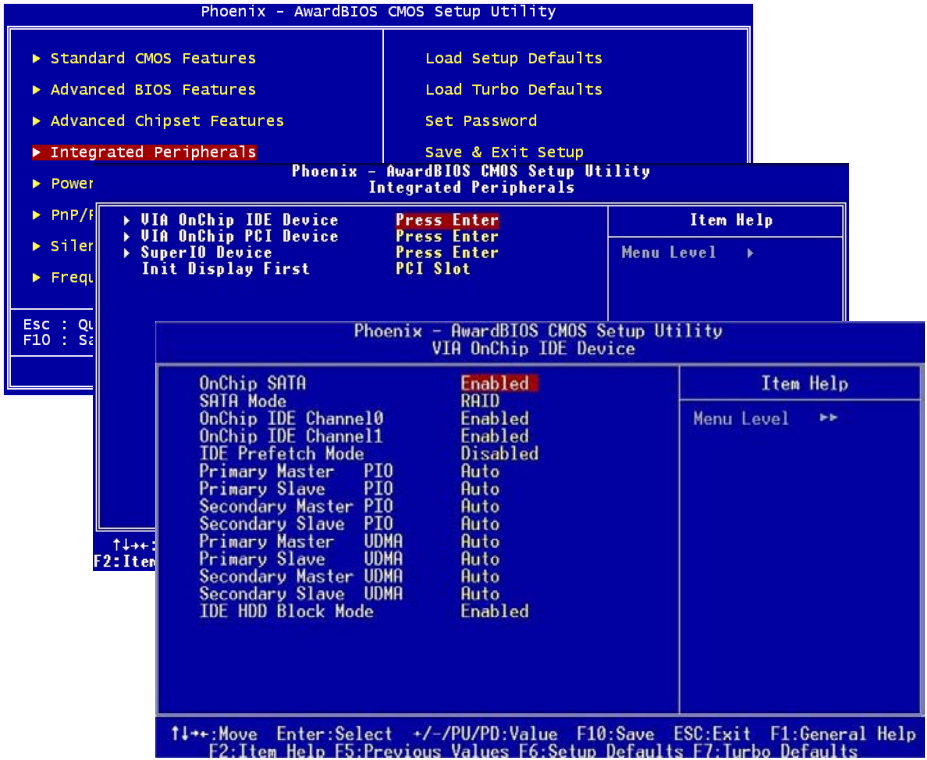
SATA2
Port1



Adjusting your Hard Disk Setting (only for vKM400Am-S)

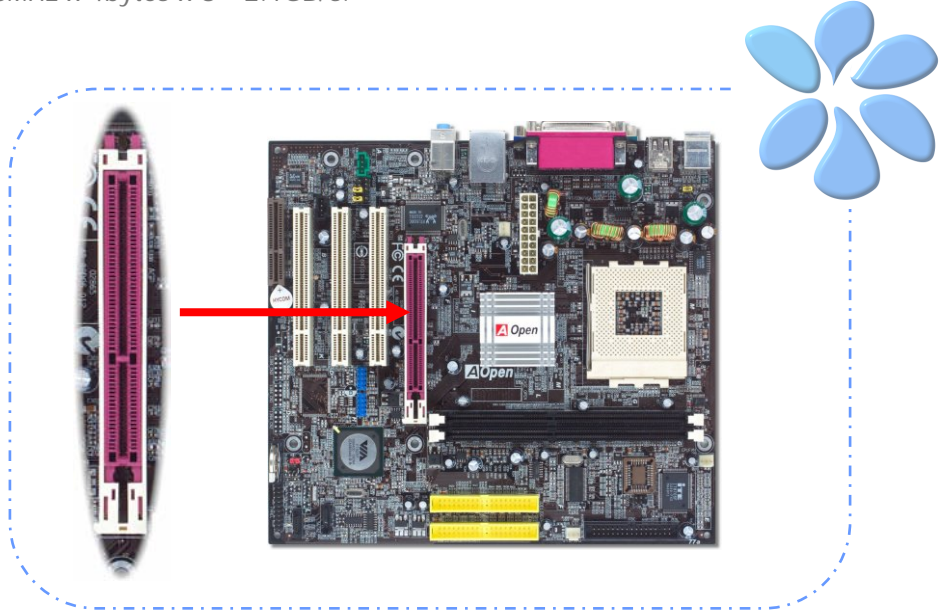
Except its original 2 sets of parallel IDE, this motherboard supports the latest serial ATA hard disk. If you are unable to find your newly installed serial ATA hard disks on your operating system after having them installed, the problem may lie in the BIOS setting. You can simply adjust BIOS settings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

After installing your hard disks properly, you can directly go to BIOS setting screen for adjustment. Simply pressing **“Integrated Peripherals → VIA-OnChip IDE Device → OnChip SATA”** to either enable or disable SATA interface



Connecting AGP 8X Expansion Slot (only for vKM400Am-S)

vKM400Am-S provides an AGP 8X slot. 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 $66\text{MHz} \times 4\text{bytes} \times 4 = 1056\text{MB/s}$. Now AGP is moving to AGP 8X mode, which is upgraded to $66\text{MHz} \times 4\text{bytes} \times 8 = 2.1\text{GB/s}$.



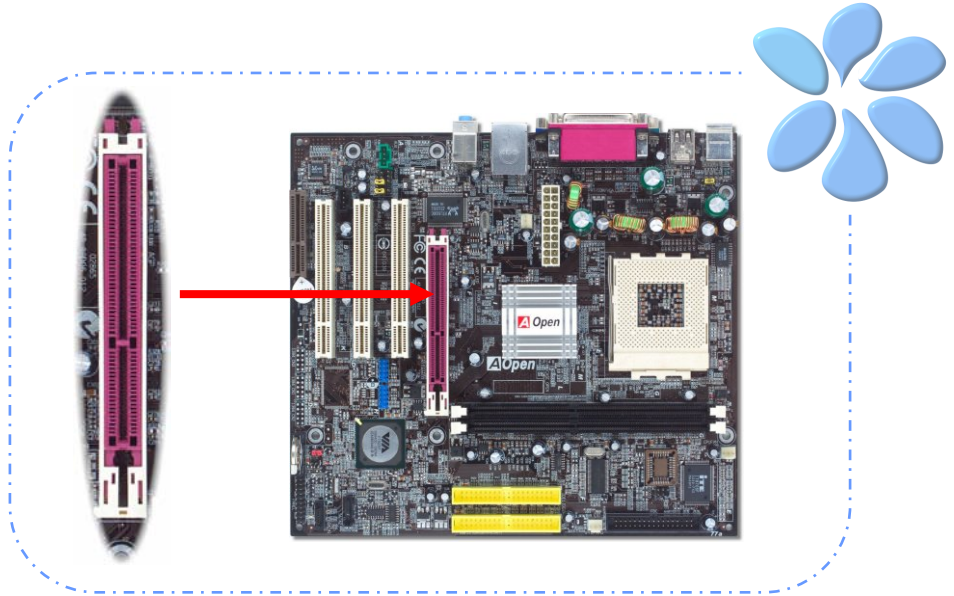
Warning: It is strongly recommended not adjust AGP/PCI voltage/clock when you connect SATA device. It is because when the voltage/clock for AGP/PCI is adjusted, the SATA clock cannot remain at 100MHz, and the system will therefore be unstable.



Warning: It is strongly recommended not install a 3.3V AGP card, which is not supported by VIA KM400A chipset on this motherboard.

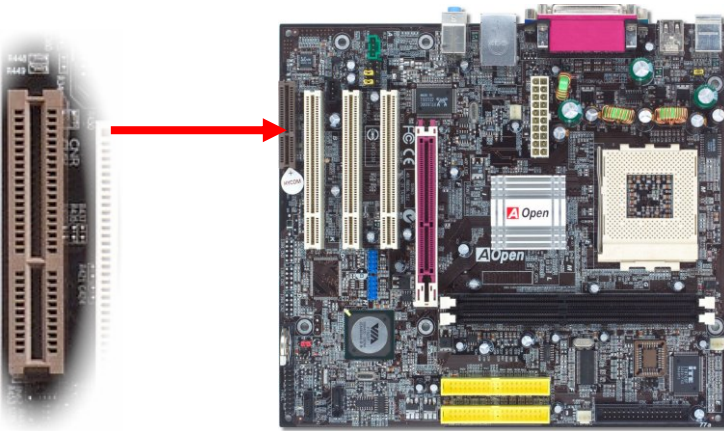
Connecting AGP 4X Expansion Slot (only for vKM266Pm)

vKM266Pm provides an AGP 4X slot. AGP 4X is a bus interface targeted for high-performance 3D graphic, and the data transfer rate could achieve $66\text{MHz} \times 4\text{bytes} \times 4 = 1056\text{MB/s}$.



Connecting CNR (Communication and Network Riser) Expansion Slot

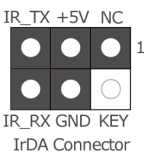
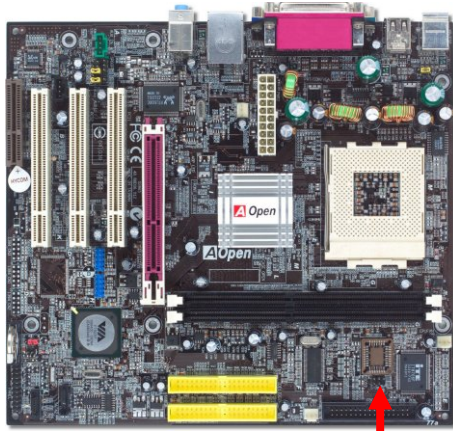
CNR is a riser card specification to replace the AMR (Audio/Modem Riser) that supports V.90 analog modem, multi-channel audio, and phone-line based networking. Owing to CPU computing power getting stronger, the digital processing job can be implemented in main chipset and share CPU power. The analogy conversion (CODEC) circuit requires a different and separate circuit design, which is put on CNR card. This motherboard implements sound CODEC on board, but reserves CNR slot for the option of modem function. Note that you can still use PCI modem card. Please note that if you want to use CNR audio card on CNR slot, you must disable the sound output of CODEC from BIOS to prevent the CODEC from making out noises at the same time.



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.



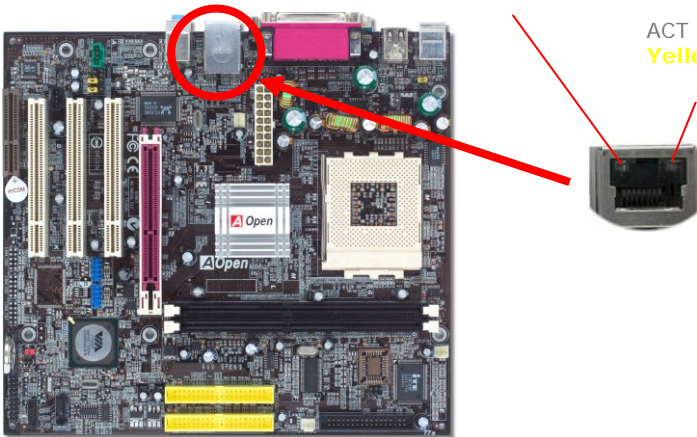
10/100 LAN Supported

On the strength of Realtek RTL8100C LAN controller on board, this motherboard provides 10/100 Ethernet for office and home use. The Ethernet RJ45 connector is located on the top of USB connectors. The right hand side LED indicates link mode; it lights in yellow 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). 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

ACT LED (Right)
Yellow



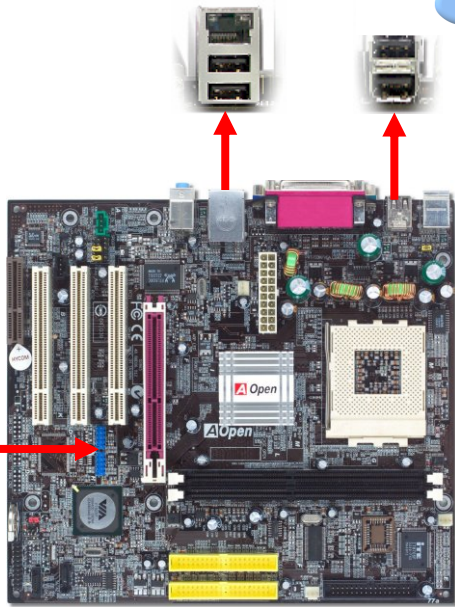
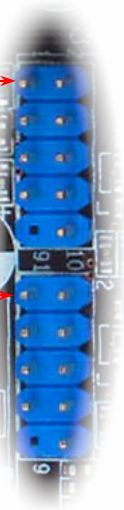
Connecting USB2.0

This motherboard provides eight USB 2.0(vKM400Am-S)/six USB2.0 (vKM266Pm) 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

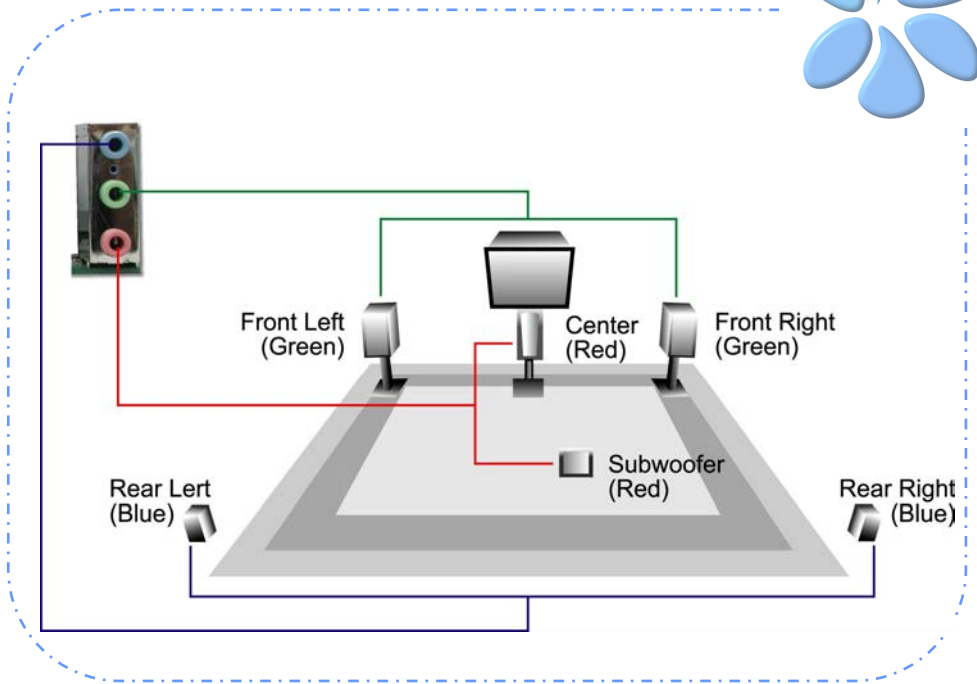


1			
+5V	●	●	+5V
SBD6-	●	●	SBD7-
SBD6+	●	●	SBD7+
GND	●	●	GND
KEY	○	●	NC

USB 2.0 Connector

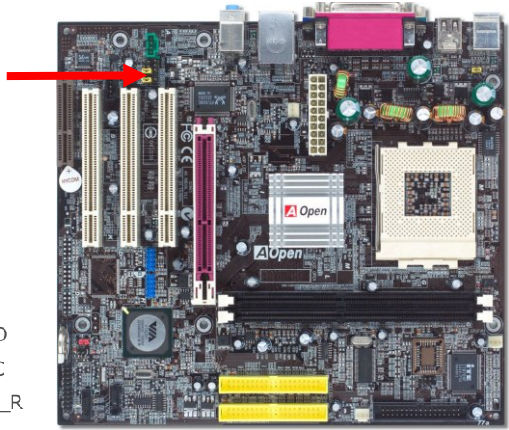
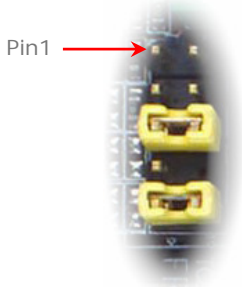
Super 5.1 Channel Audio Effects

This motherboard comes with a Realtek AC97 CODEC (ALC650), 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 ALC650, 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.

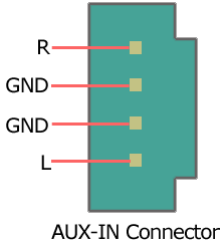
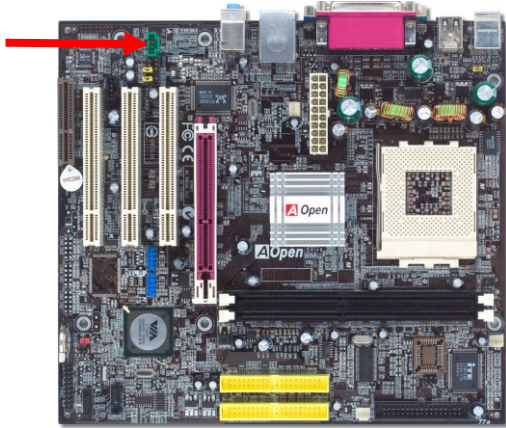
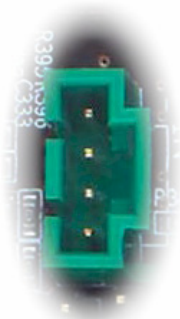


	1		
AUD_MIC	●	●	AUD_GND
AUD_MIC_BIAS	●	●	AUD_VCC
AUD_FPOUT_R	●	●	AUD_RET_R
NC	●	○	KEY
AUD_FPOUT_L	●	●	AUD_RET_L

Front Audio Connector

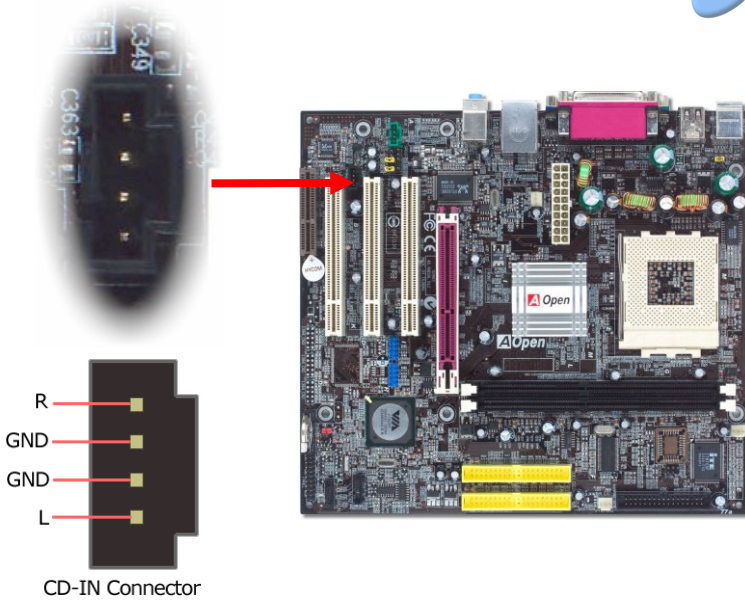
Connecting AUX_IN

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



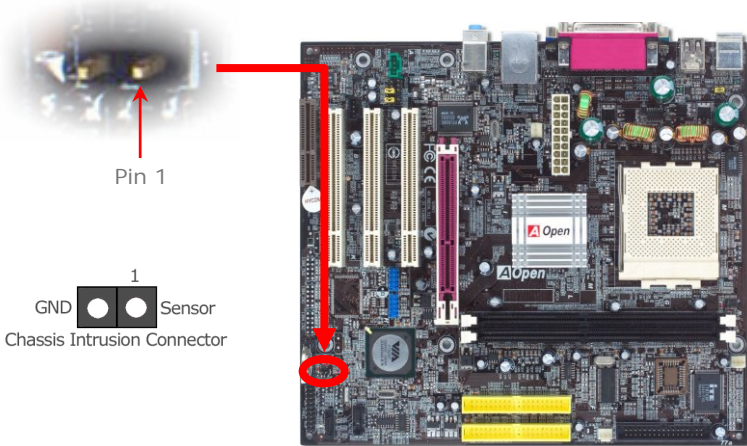
Connecting CD_IN

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



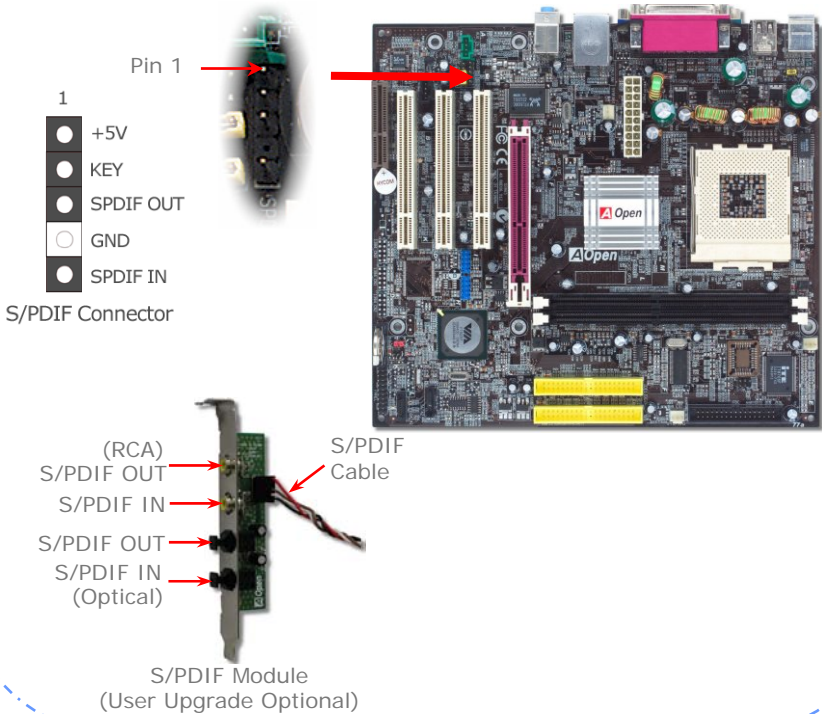
Connecting Case Open

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.



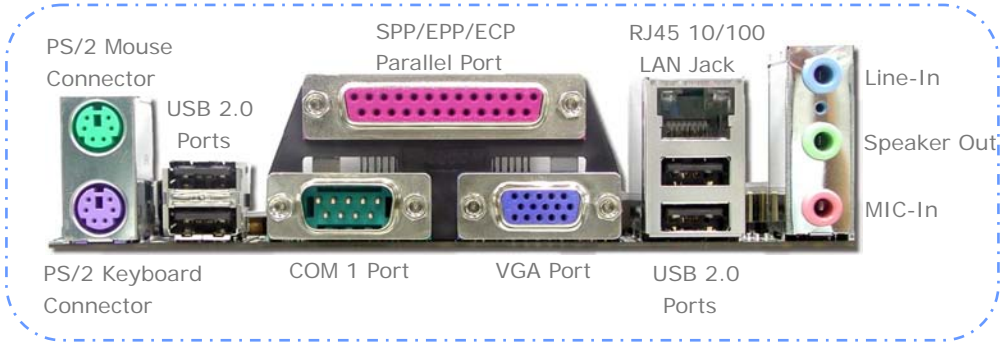
Connecting S/PDIF (Sony/Philips Digital Interface)

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.



Colored Coded Back Panel

The onboard I/O devices have PS/2 Keyboard, PS/2 Mouse, RJ-45 LAN Connector, COM1, VGA 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.

RJ-45 LAN Port: To connect Ethernet for home or office use.

VGA Connector: To connect with PC monitor.

Speaker Out: To External Speaker, Earphone or Amplifier.

Line-In: Comes from the signal sources, such as CD/Tape player.

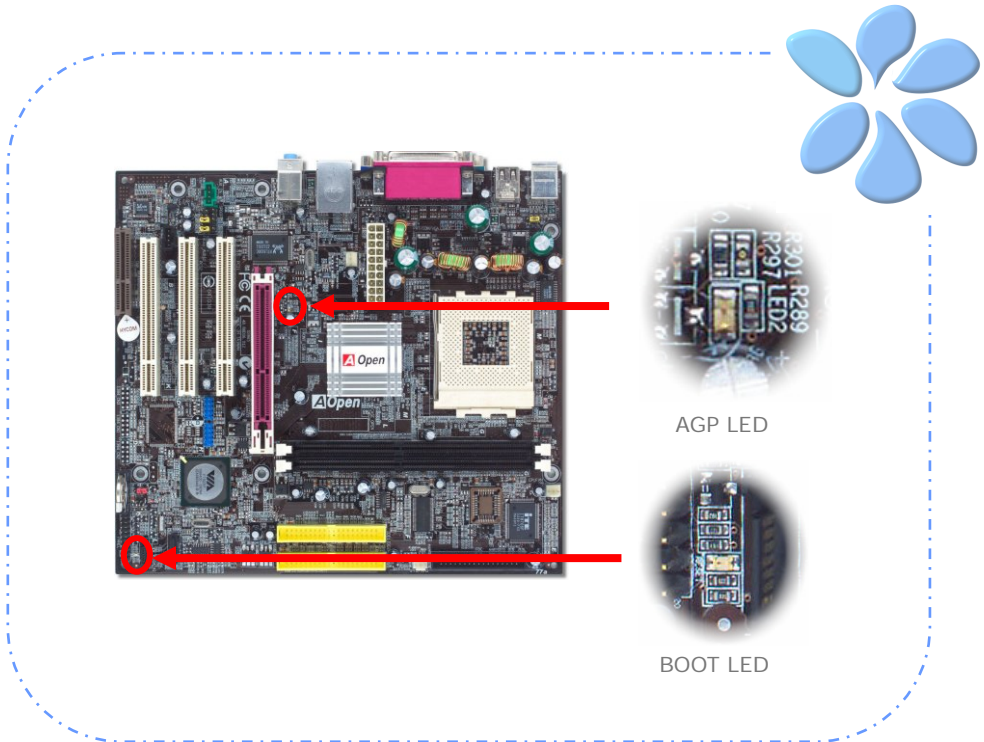
MIC-In: For Microphone

LED Indication

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

BOOT LED will keep blinking when you power the system on and when your system is under POST (Power-On Self Test). After POST diagnoses everything all right and finishes the booting, the LED will stay on otherwise it will remain flashing to warn you that mistakes have occurred during POST

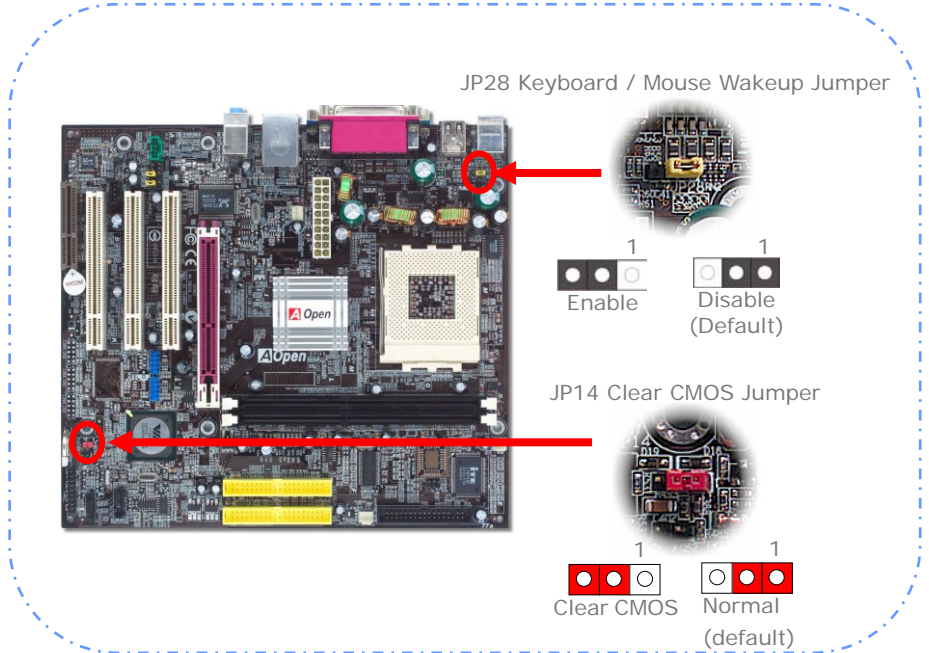
AGP LED aims to protect your motherboard from being damaged by over voltage of AGP card. When AGP Protection Technology is implemented, this motherboard will automatically detect the voltage of AGP card and prevent your chipsets from being burnt out. Please note that if you install an AGP card with 3.3V, which is not supported by VIA KM400A chipset, the AGP LED on the motherboard will light up to warn you the possible damage of the exceeding voltage.



3.4 Jumper Settings

JP28 Keyboard / Mouse
Wakeup Jumper

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



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.

Chapter 4 Special Features and Utilities

RAID (Redundant Array of Independent Disks)

With the latest chipsets implemented, VIA VT8237 provides RAID 0 and RAID 1 function for the Serial ATA hard disks. You may use RAID BIOS Setting Utility provided by VIA to setup your disk array. For more RAID introduction, please visit our website: <http://english.aopen.com.tw/tech/techinside/RAID.htm>

RAID BIOS Setting Utility (only for vKM400Am-S)

In order to make sure your system can recognize and operate Serial ATA RAID device smoothly, we have to enter RAID BIOS Setting Utility to do some configuration. After finishing the BIOS setup and reboot, you will see [Press <Tab> into User Window] about half way through the boot up. When you enter, you will be presented with a screen as shown below. You can use this utility to create or delete your disk arrays.

```
VIA Technologies, Inc. VIA VT6420 RAID BIOS Setting Utility v0.95
Copyright (C) VIA Technologies, Inc. All Right reserved.

Press < Tab > Key into User Window!
Scan Devices, Please wait...
Channel 0 Master: SAMSUNG SP8004H
Channel 0 Slave: No Device
Channel 1 Master: No Device
Channel 1 Slave: No Device
Parallel Master: No Device
Parallel Slave: No Device
```

VIA Tech. RAID BIOS Ver 0.95

<ul style="list-style-type: none">▶ Create Array▶ Delete Array▶ Create/Delete Spare▶ Select Boot Array▶ Serial Number View	<p>Create a RAID array with the hard disks attached to VIA IDE controller</p> <p>F1 : View Array/disk Status ↑↓ : Move to next item Enter: Confirm the selection ESC : Exit</p>				
Channel	Drive Name	Array Name	Mode	Size(GB)	Status
Channel0 Master	SAMSUNG SP8004H		ATA 100	74.56	Hdd
Channel0 Slave	No Drive				
Channel1 Master	No Drive				
Channel1 Slave	No Drive				

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.

The screenshot shows the Phoenix - AwardBIOS CMOS Setup Utility interface with the SilentTek Control menu. The screen is divided into two main sections: a list of fan settings on the left and an 'Item Help' window on the right. The fan settings are as follows:

Item	Mode	Speed	Value	Unit
CPUFAN	Boot Speed	70%	2800	RPM
SYSFAN1	Boot Speed	70%	----	RPM
SYSFAN2	Boot Speed	70%	None	
PWRFAN	Boot Speed	70%	None	
Fan Mode		Full Speed		
x CPUFAN	Fixed Speed	100%	4000	RPM
x SYSFAN1	Fixed Speed	100%	----	RPM
x SYSFAN2	Fixed Speed	100%	None	
x PWRFAN	Fixed Speed	100%	None	
x CPU Set	Temp.	40°		C
x SYS Set	Temp.	30°		C
x PWR Set	Temp.	30°		C
CPUFAN	OS Speed	100%	4000	RPM
SYSFAN1	OS Speed	100%	----	RPM
SYSFAN2	OS Speed	100%	None	
PWRFAN	OS Speed	100%	None	

The 'Item Help' window provides the following information:

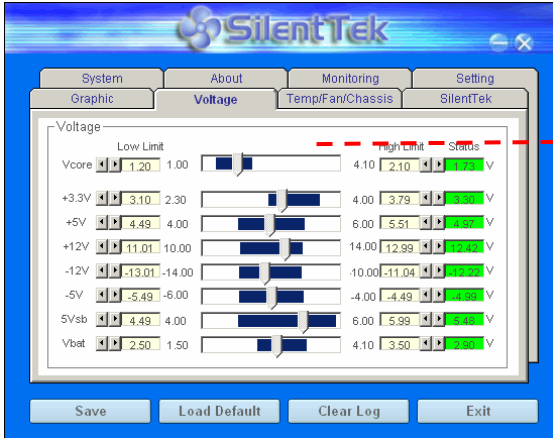
Menu Level ▶▶

This is initial fan speed when power-on. "50%" means half of full speed. "100%" means full speed.

Note:
During POST stage, the fan will be controlled by the mode you specified in the item "Fan Mode".

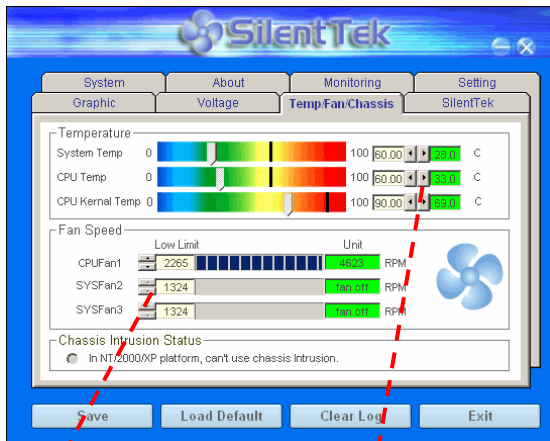
Navigation keys: ↑↓←→:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F2:Item Help F5:Previous Values F6:Setup Defaults F7:Turbo Defaults

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.

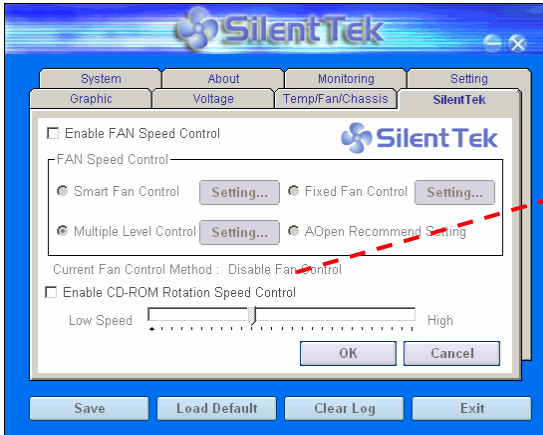
In "Temp/Fan/Case" page, you can get aware of the current temperature of CPU and the heat inside chassis. Also, you can check if fans are running properly.



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>



 **DieHard BIOS Lite**

 **Serial ATA**

DDR400

 **RAID**

 **ATA133**

 **HyperTransport
TECHNOLOGY**

 **AGP8X**

 **EzWin Flash**

 **OverHeat
Protection**

 **SilentTek**

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 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.*



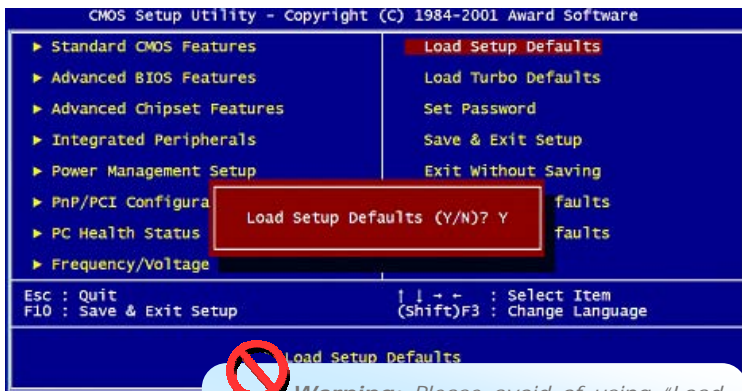
How to Use Phoenix-Award™ BIOS Setup Program

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 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.

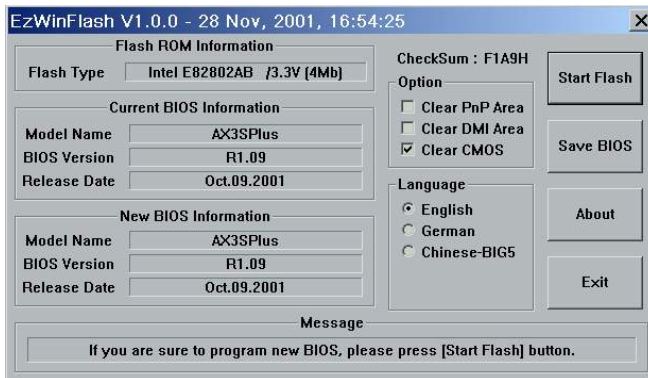


BIOS Upgrade under Windows environment



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 95/98, 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: WSGMAXII102.ZIP) with WinZip (<http://www.winzip.com>) in Windows environment.

Save the unzipped files into a folder, for example, WSGMAXII102.EXE & WSGMAXII102.BIN.

Double click WSGMAXII102.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 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.

Vivid BIOS technology




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 considerably tuned the BIOS to next generation, to recognize the smaller-sized GIF format and even dynamic-showing GIF animation.



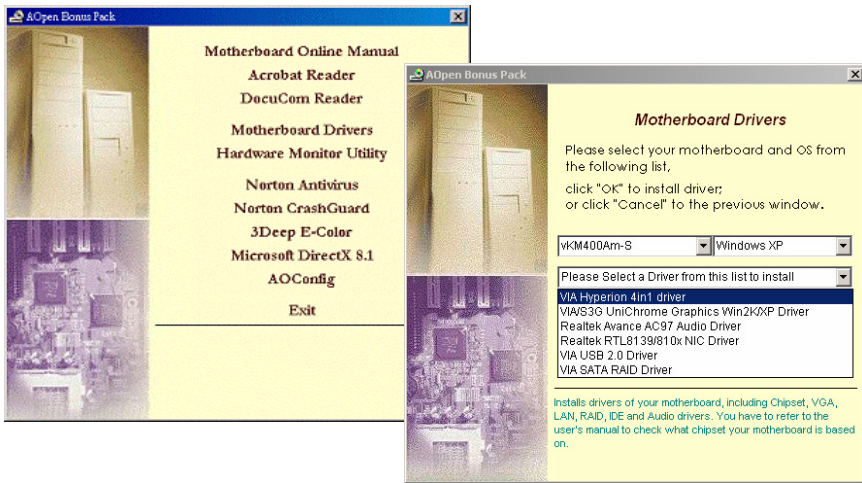
Vivid BIOS shares the same fundamental technology with Open JukeBox CD Player, you may use the same EzSkin utility to change your VividBIOS screen or to download your favorite Open JukeBox skin. If you see this little logo shown beside  your model name on the motherboard download page, <http://english.aopen.com.tw/tech/ezskin/vivid.htm>,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

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.



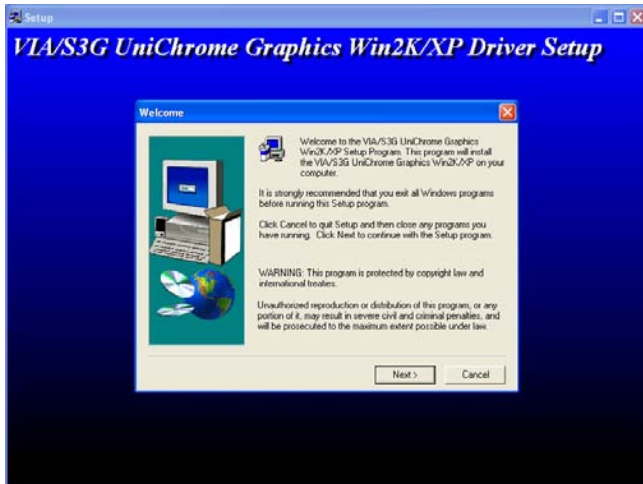
Installing VIA 4 in 1 Driver

You can install the VIA 4 in 1 driver (IDE Bus master (For Windows NT use), VIA ATAPI Vendor Support Driver, VIA AGP, IRQ Routing Driver (For Windows 98 use), VIA Registry (INF) Driver) from the Bonus Pack CD auto-run menu.



Installing VIA S3G Unichrome Graphics Win2K/XP Driver (for vKM400Am-S)

This motherboard is based on VIA KM400A which provides integrated VGA Engine in die. For optimized 3D performance, please installing its driver by choosing VIA S3G Unichrome Graphics Win2K/XP driver in the Bonus Pack CD auto-run menu



Installing VIA S3G Unichrome IGP Win2K/XP Driver (for vKM266Pm)

This motherboard is based on VIA KM266 which provides integrated VGA Engine in die. For optimized 3D performance, please installing its driver by choosing VIA S3G Unichrome IGP Win2K/XP driver in the Bonus Pack CD auto-run menu.



Installing Audio Driver

This motherboard comes with RealTek ALC650 AC97 CODEC and the sound controller is in VIA South Bridge chipset. You can find the audio driver from the Bonus Pack CD auto-run menu.



Installing LAN Driver

This motherboard comes with Realtek RTL 8100C controller on board, which is a highly-integrated Platform LAN connect device providing 10/100Mbps Ethernet for office and home use. You can find the LAN driver from the Bonus CD Pack auto-run menu.



Installing VIA USB 2.0 Driver

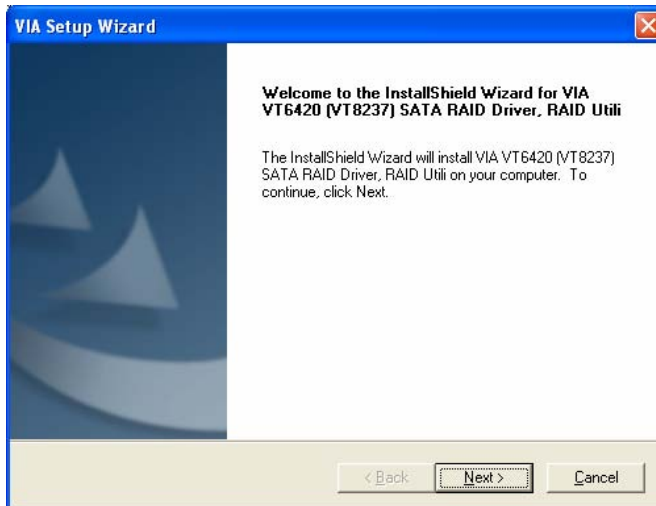
This motherboard comes with USB2.0 function. You can install USB2.0 Driver under Windows 98SE, Windows ME, Windows 2000 and Windows XP from the Bonus Pack CD auto-run menu.



Note: After installing USB 2.0 driver under WinME, there would be a "green question mark" on "VIA USB 2.0 Enhanced Host Controller" item. Please rest assured that it is not an error message. You may just ignore it

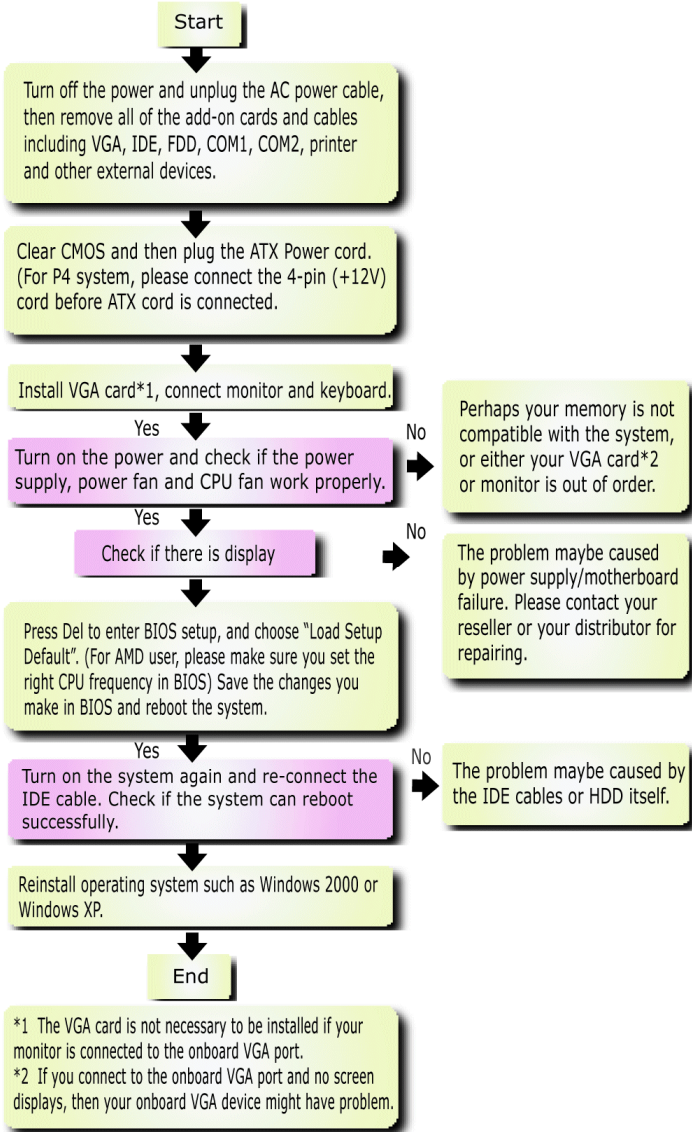
Installing VIA Serial ATA RAID Driver (only for vKM400Am-S)

This Motherboard has two SATA ports which are provided by the south bridge VIA VT8237. The two ports support RAID 0 and RAID 1. You can install the SATA RAID driver from the Bonus Pack CD auto-run menu.





Troubleshooting



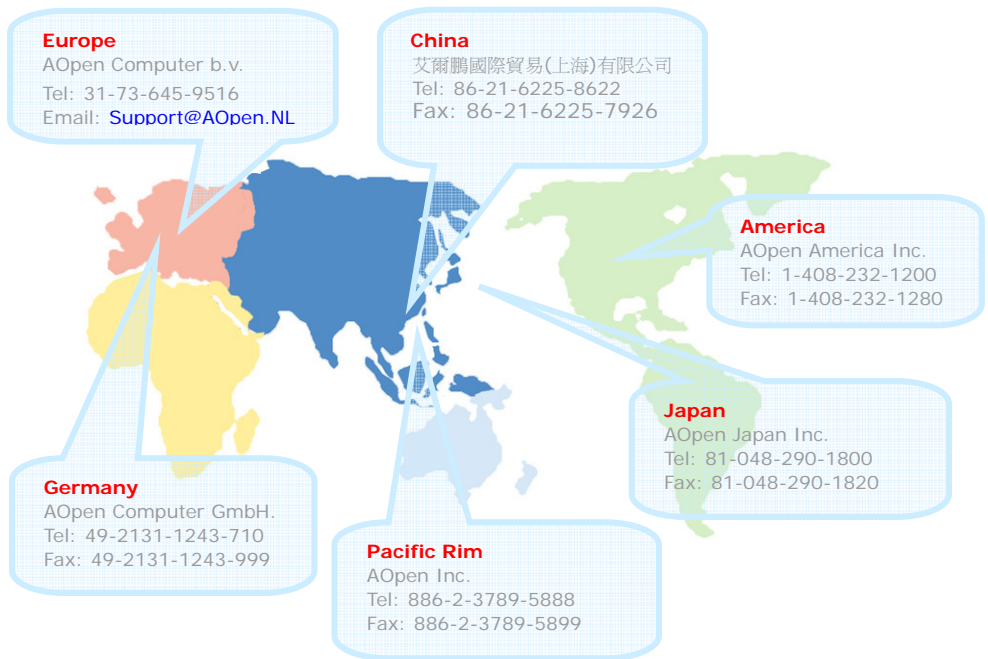
Chapter 8 Technical Support

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!

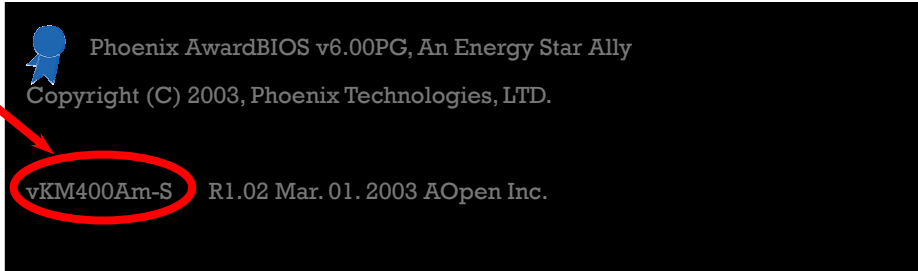
AOpen Technical Supporting Team



Europe 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:



vKM400Am-S 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:



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.



Technical Support

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.