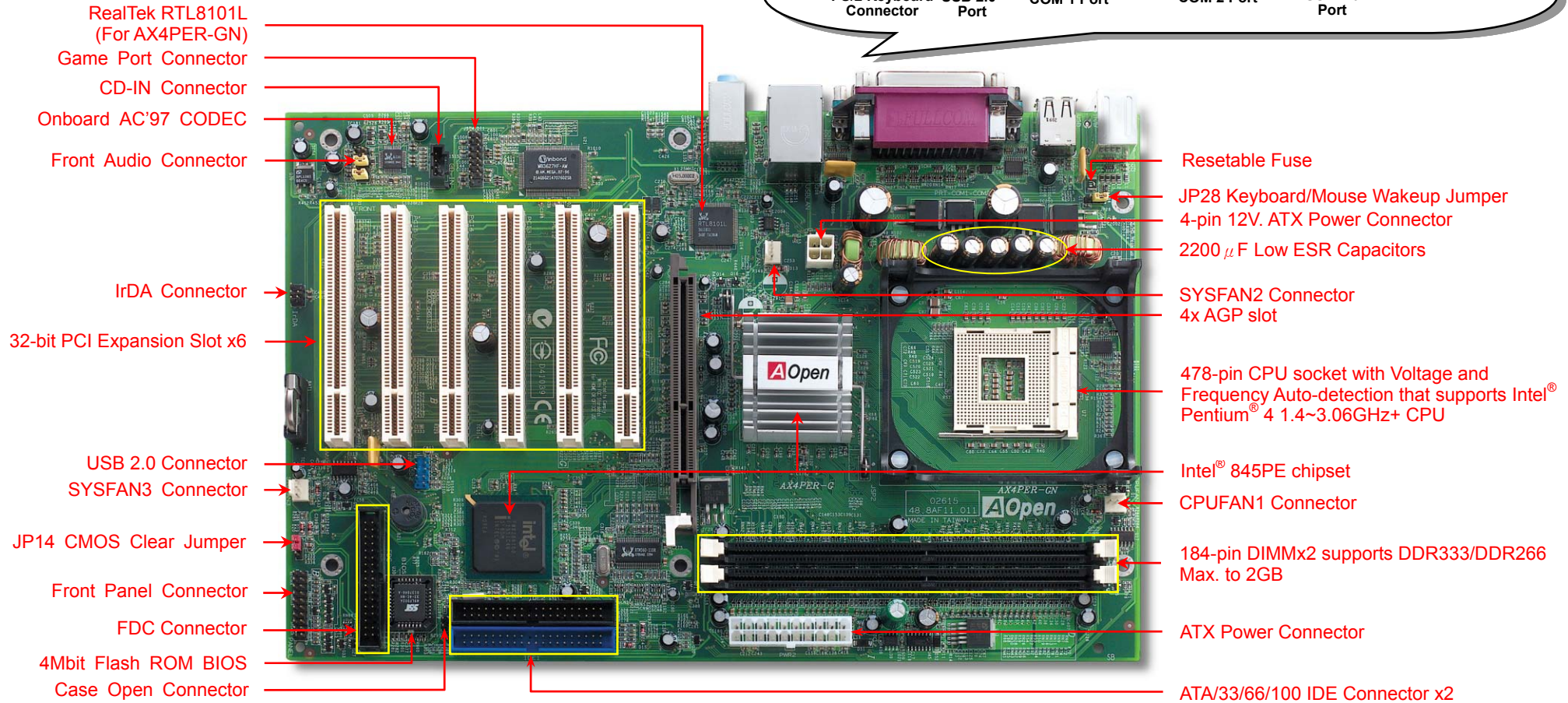
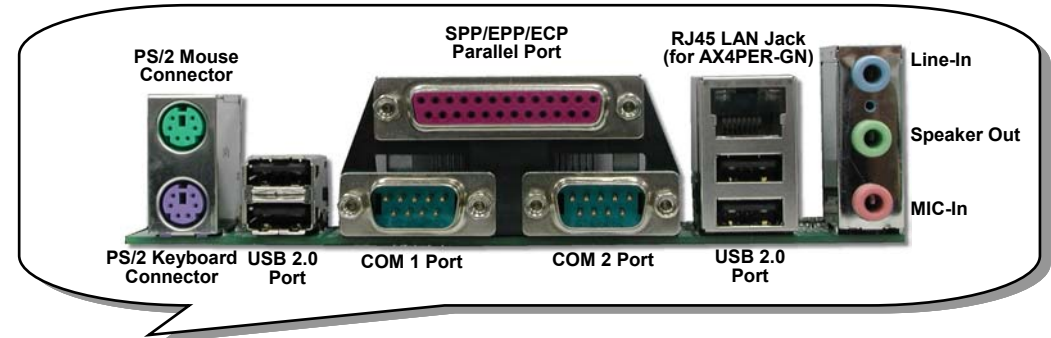


Easy Installation Guide

AX4PER-G AX4PER-GN



PS. Here we use AX4PER-GN motherboard as illustration.

Before You Start



Everything you need to boot this motherboard is included in this Easy Installation Guide. For more information, a complete **Online User's Manual** can be found in the **Bonus Pack CD**. Thanks for the help of saving our earth.

Accessory Checklist

- ✓ **Motherboard x1**
- ✓ **Easy Installation Guide x1**
- ✓ **80-wire IDE Cable x1**
- ✓ **Floppy Disk Drive Cable x1**
- ✓ **Retention Module x1**
- ✓ **EzRestore Guide x1**
- ✓ **Bonus Pack CD x1**



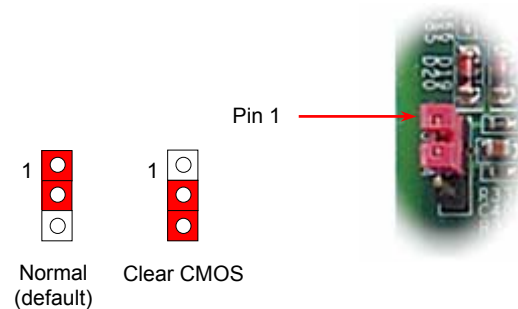
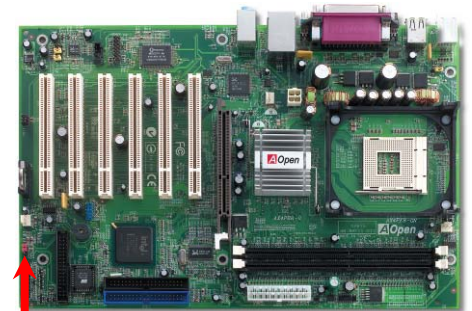
PART NO: 49.8AF02.E01

DOC. NO: AX4PERGN-EG-E0302A

1. JP14 Clear CMOS

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.

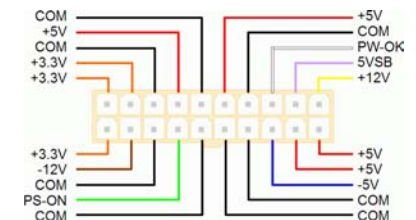
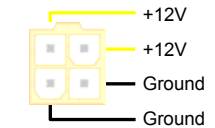
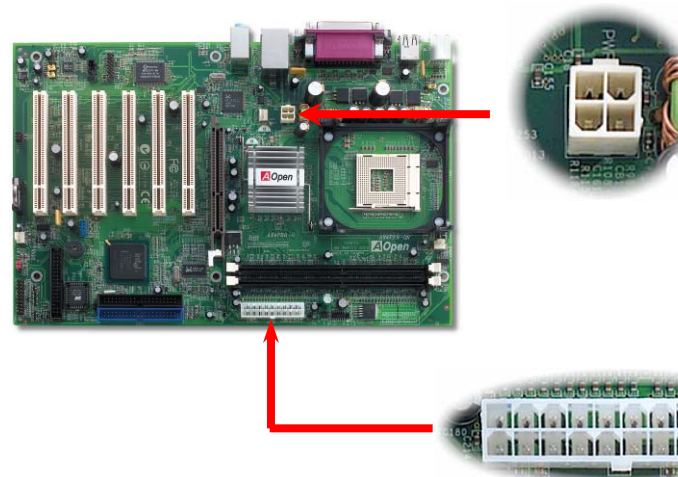


Tip: When should I Clear CMOS?

1. Boot fail because of overclocking...
2. Forget password...
3. Troubleshooting...

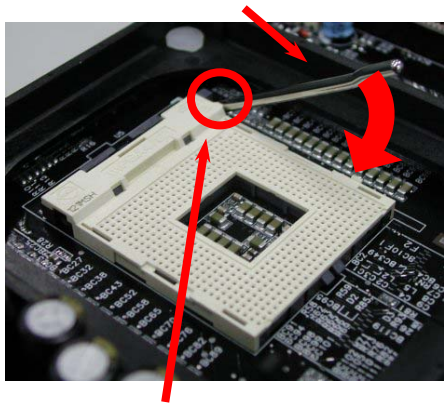
2. Connecting ATX Power Connector

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



3. Installing Processor

This socket supports FC-PGA2 package CPU, which is the latest CPU package developed by Intel. Other forms of CPU package are impossible to be fitted in.



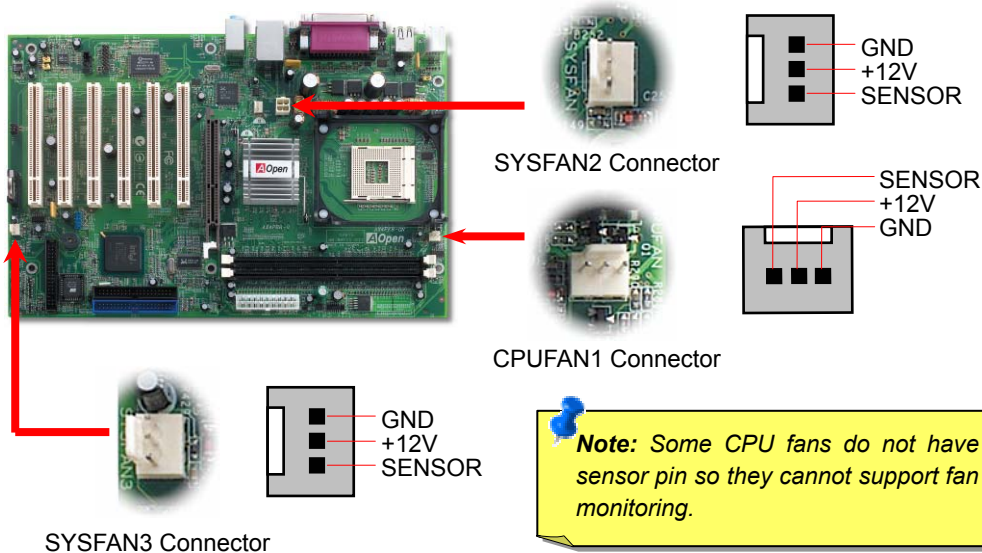
CPU Pin 1 and cut edge

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) cut edge on the CPU upper interface. Match Pin 1 and cut edge. Then insert the CPU into the socket.
3. Press down the CPU socket lever and finish CPU installation.

Note: If you do not match the CPU socket Pin 1 and CPU cut edge well, you may damage the CPU.

4. Installing CPU & System Fan

Plug in the CPU fan cable to the 3-pin **CPUFAN1** connector. If you have chassis fan, you can also plug it on **SYSFAN2** or **SYSFAN3** connector.



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

5. Setting CPU Frequency

Setting CPU Frequency

This motherboard is CPU jumper-less design, you can set CPU frequency through the BIOS setup, and no jumpers or switches are needed.

BIOS Setup > Frequency / Voltage Control > CPU Frequency Setting

Core Frequency = CPU FSB Clock * CPU Ratio

CPU Ratio	8x, 9x, 10x... 21x, 22x, 23x, 24x
CPU FSB	100~255MHz

Northwood CPU	CPU Core Frequency	FSB Clock	System Bus	Ratio
Pentium 4 1.6G	1600MHz	133MHz	533MHz	12x
Pentium 4 1.7G	1700MHz	133MHz	533MHz	13x
Pentium 4 1.8G	1800MHz	100MHz	400MHz	18x
Pentium 4 2.0G	2000MHz	100MHz	400MHz	20x
Pentium 4 2.2G	2200MHz	100MHz	400MHz	22x
Pentium 4 2.26G	2260MHz	133MHz	533MHz	17x
Pentium 4 2.4G	2400MHz	100MHz	400MHz	24x
Pentium 4 2.4G	2400MHz	133MHz	533MHz	18x
Pentium 4 2.53G	2530MHz	133MHz	533MHz	19x
Pentium 4 2.66G	2660MHz	133MHz	533MHz	20x
Pentium 4 2.8G	2800MHz	133MHz	533MHz	21x
Pentium 4 3.06G	3060MHz	133MHz	533MHz	23x

Willamette CPU	CPU Core Frequency	FSB Clock	System Bus	Ratio
Pentium 4 1.5G	1500MHz	100MHz	400MHz	
Pentium 4 1.6G	1600MHz	100MHz	400MHz	16x
Pentium 4 1.7G	1700MHz	100MHz	400MHz	17x
Pentium 4 1.8G	1800MHz	100MHz	400MHz	
Pentium 4 1.9G	1900MHz	100MHz	400MHz	
Pentium 4 2.0G	2000MHz	100MHz	400MHz	

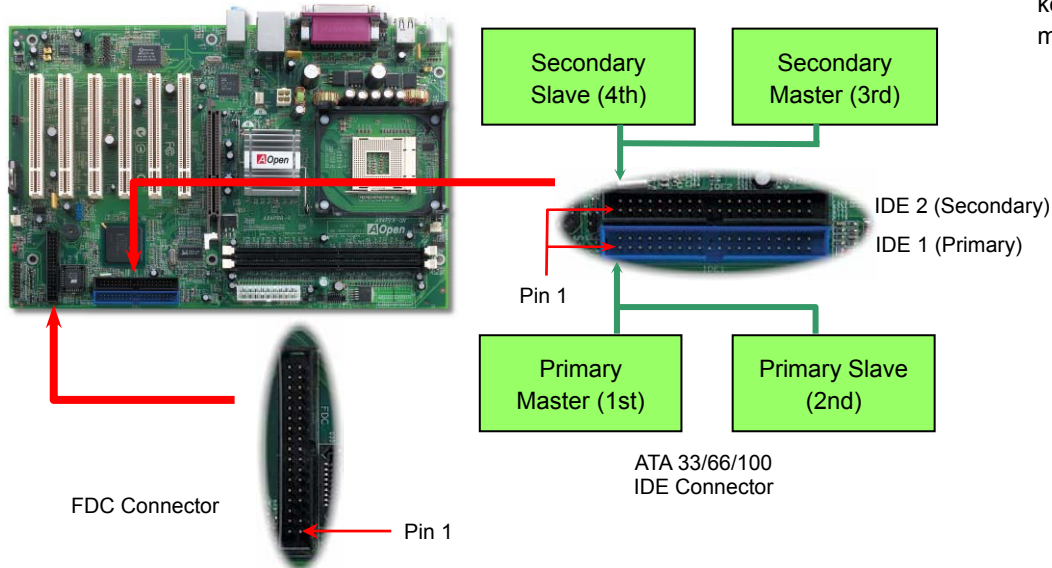
Warning: Intel 845PE supports maximum 533MHz system bus and 66MHz AGP clock; higher clock setting may cause serious system damage.

Note: Since the latest processor, Northwood, would detect the clock ratio automatically, you may not be able to adjust the clock ratio in BIOS manually.

Celeron CPU	CPU Core Frequency	FSB Clock	System Bus	Ratio
Celeron 1.7G	1700MHz	100MHz	400MHz	17x
Celeron 1.8G	1800MHz	100MHz	400MHz	18x
Celeron 2.0G	2000MHz	100MHz	400MHz	20x
Celeron 2.1G	2100MHz	100MHz	400MHz	21x

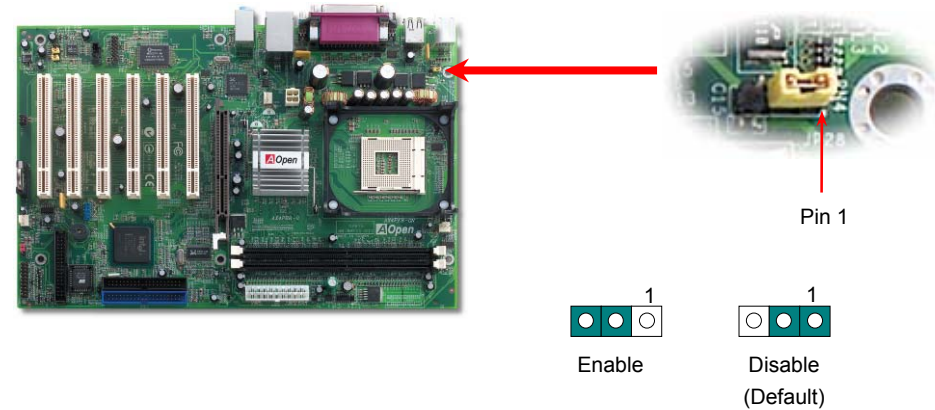
6. Connecting IDE and Floppy Cables

Connect 34-pin floppy cable and 40-pin, 80-wire IDE cable to floppy connector FDC and IDE connector. Be careful of the pin 1 orientation. Wrong orientation may cause system damage.



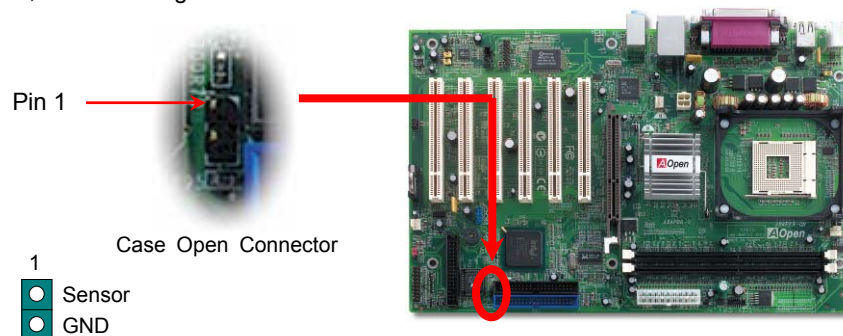
8. JP28 Keyboard/Mouse Wake-up Jumper

This motherboard provides keyboard / mouse wake-up function. You can use JP28 to enable or disable this function, which could resume your system from suspend mode with keyboard or mouse installed. The factory default setting is set to "Disable"(1-2), and you may enable this function by setting the jumper to 2-3.



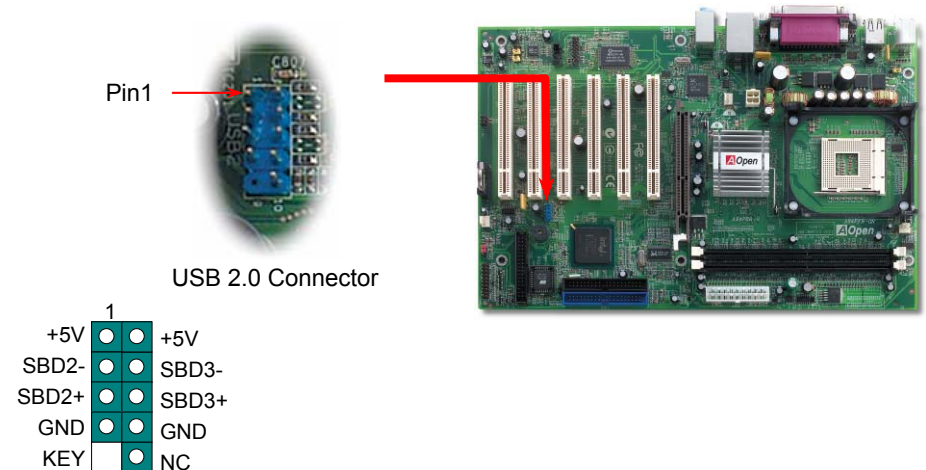
7. Case Open Connector

The "CASE OPEN" header provides chassis intrusion-monitoring function. To make this function works, 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.

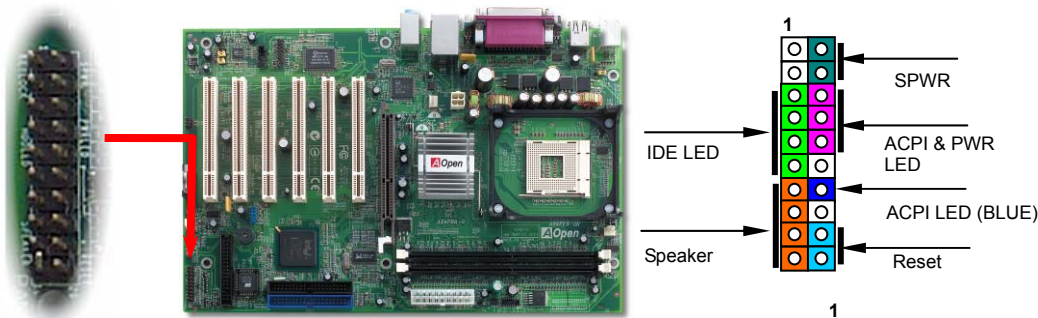


9. Support Six USB 2.0 Connectors

This motherboard provides six USB 2.0 connectors. Compared to traditional USB 1.0/1.1 with the speed of 12Mbps, USB 2.0 has a fancy speed up to 480Mbps, which is 40 times faster than the traditional one.



10. Connecting Front Panel Cable



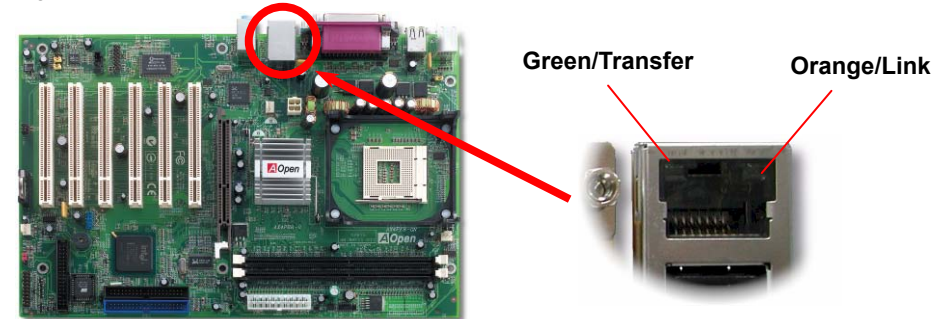
Attach the power LED, speaker, and reset switch connectors to the corresponding pins. If you enable "Suspend Mode" item in BIOS Setup, the ACPI & Power LED will keep flashing while the system is in suspend mode.

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

1	NC	5VSB
	NC	SPWR
	+5V	ACPI LED-
	IDE LED	GND
	IDE LED	ACPILED
	+5V	NC
	+5V	ACPI_B
	GND	GND
	NC	RESET
	SPEAKER	GND

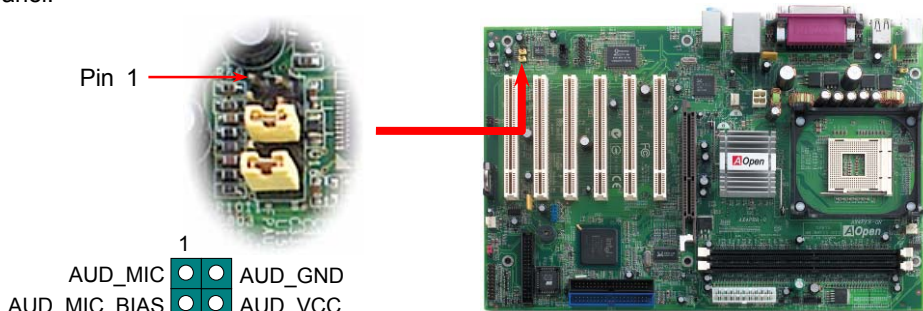
12. 10/100 Mbps LAN onboard (For AX4PER-GN)

The South Bridge ICH4 includes a fast Ethernet controller on chip. On the strength of RealTek 8101L LAN controller on board, which is a highly-integrated Platform LAN Connect device, it provides 10/100M bps Ethernet for office and home use, the Ethernet RJ45 connector is located on top of USB connectors. The orange LED indicates the link mode, it lights when linking to network. The green LED indicates the transfer mode, and it lights when data is transferring. To enable or disable this function, you may simply adjust it through BIOS.



11. Front Audio Connector

If the housing has been 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 caps from the Front Audio Connector before you connect the cable. Do not remove the yellow jumper caps if your housing doesn't have an audio port on the front panel.



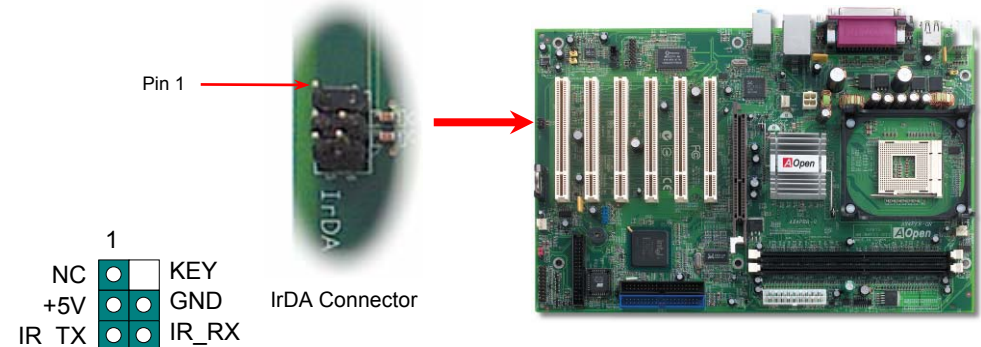
1	AUD_MIC	AUD_GND
	AUD_MIC_BIAS	AUD_VCC
	AUD_FPOUT_R	AUD_RET_R
	NC	KEY
	AUD_FPOUT_L	AUD_RET_L

Front Audio Connector

13. IrDA Connector

The IrDA connector can be configured to support wireless infrared module, with this module and application software such as Laplink or Windows 95 Direct Cable Connection, the user can transfer files to or from laptops, notebooks, PDA devices and printers. This connector supports HPSIR (115.2Kbps, 2 meters) and ASK-IR (56Kbps).

Install the infrared module onto the **IrDA** connector and enable the infrared function from BIOS Setup, UART Mode, make sure to have the correct orientation when you plug in the IrDA connector.

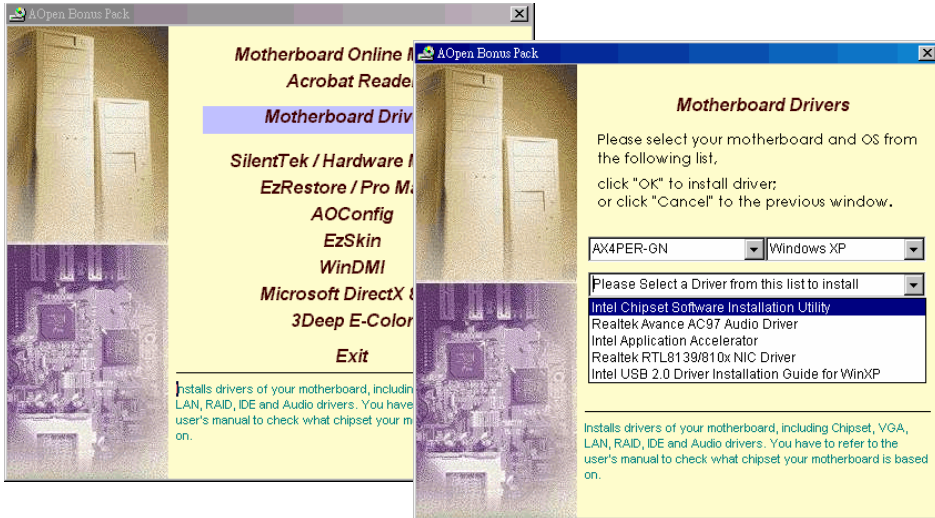


1	NC	KEY
	+5V	GND
	IR_TX	IR_RX

IrDA Connector

14. AOpen Bonus Pack CD

You can use the autorun menu of Bonus CD. Choose the utility and driver and select model name.



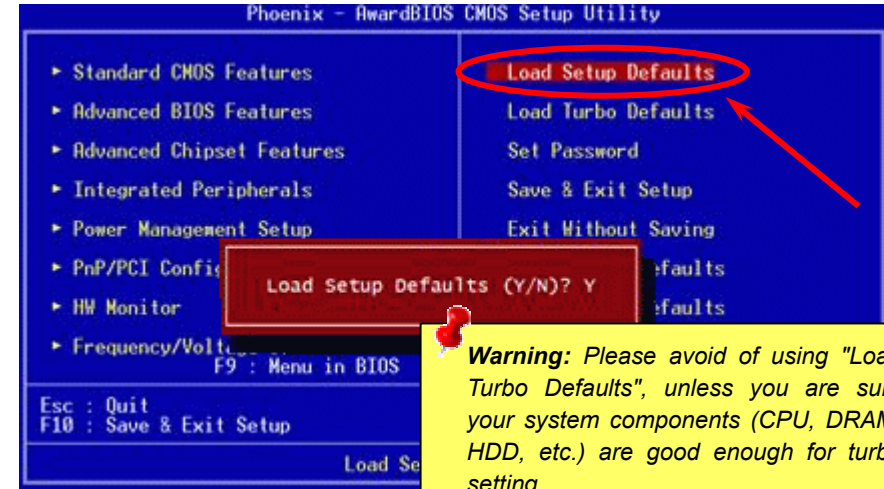
15. Installing Onboard Sound Driver

This motherboard comes with [AC97 CODEC](#). You can find the audio driver from the Bonus Pack CD auto-run menu.



16. Power-on and Load BIOS Setup

Del After you finish the setting of jumpers and connect correct cables. Power on and enter the BIOS Setup, press during POST (Power On Self Test). Choose "Load Setup Defaults" for recommended optimal performance.



17. BIOS Upgrade under Windows Environment

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

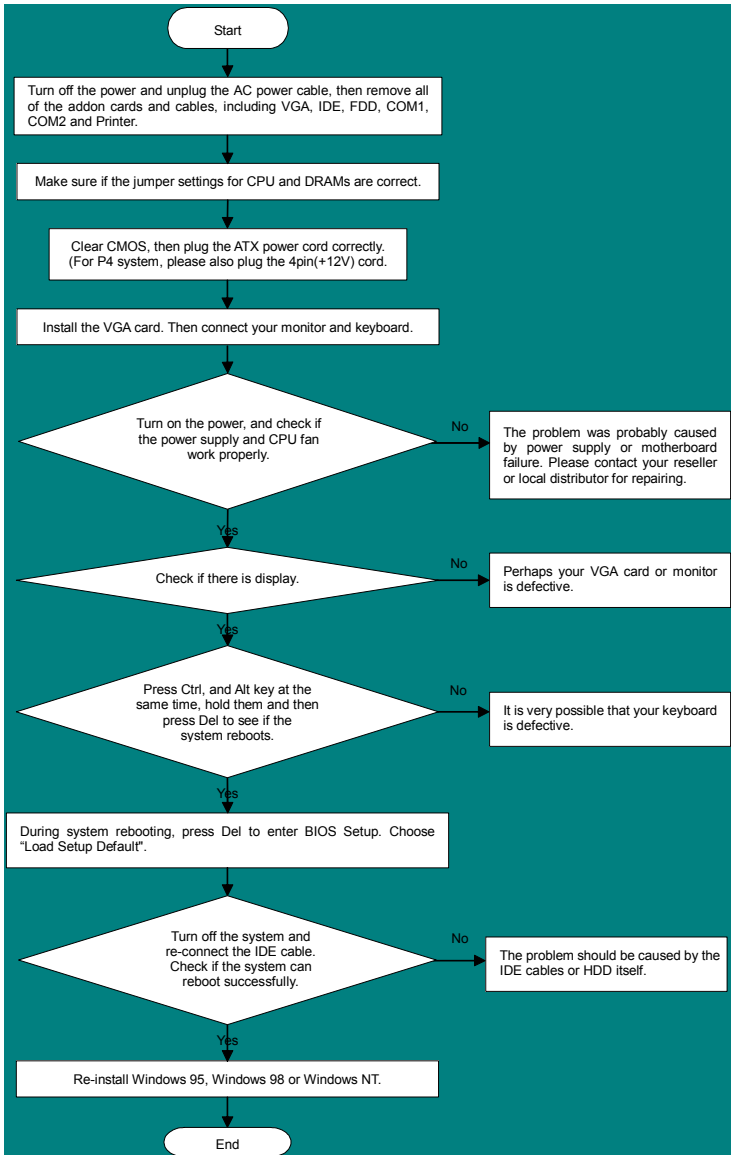
1. Download the new version of BIOS package zip file from AOpen official web site. (ex: <http://www.aopen.com>)
2. Unzip the download BIOS package (ex: WPRGN102.ZIP) with WinZip (<http://www.winzip.com>) in Windows environment.
3. Save the unzipped files into a folder, for example, WPRGN102.EXE & WPRGN102.BIN.
4. Double click on the WPRGN102.EXE, EzWinFlash will detect the model name and BIOS version of your motherboard. If you had got the wrong BIOS, you will not be allowed to proceed with the flash steps.
5. You may select preferred language in the main menu, then click [Start Flash] to start the BIOS upgrade procedure.
6. EzWinFlash will complete all the process automatically, and a dialogue box will pop up to ask you to restart Windows. You may click [YES] to reboot Windows.
7. Press at POST to enter BIOS setup; choose "Load Setup Defaults", then "Save & Exit Setup". Done!

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



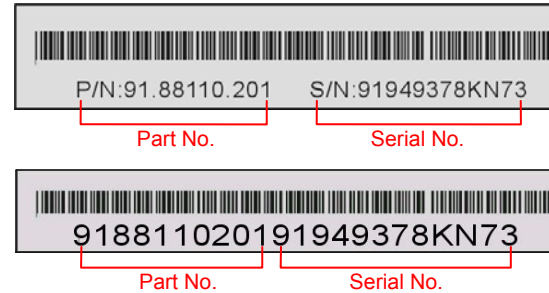
Troubleshooting

If you encounter any trouble to boot you system, follow the procedures accordingly to resolve the problem.



Part Number and Serial Number

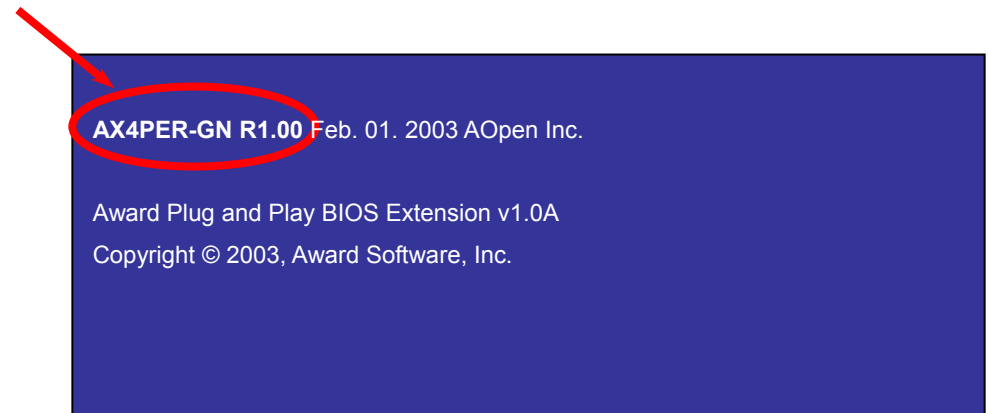
The Part Number and Serial number are printed on bar code label. You can find this bar code label on the outside packing or on the component side of PCB. For example:



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

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:



AX4PER-GN is model name of motherboard; **R1.00** is BIOS version



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