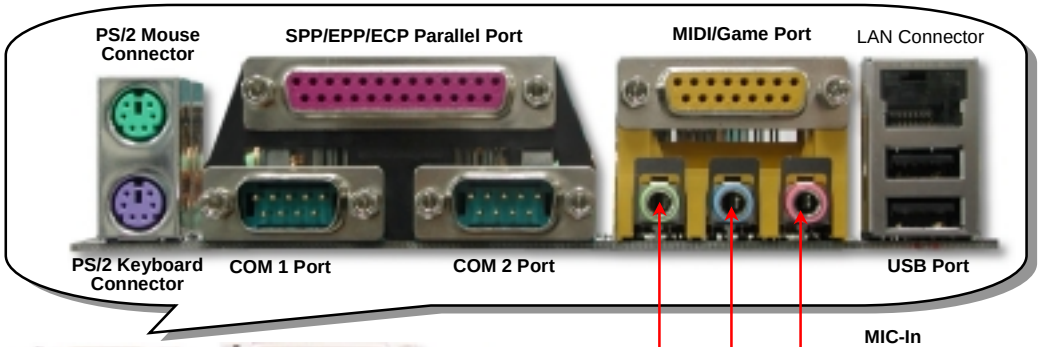
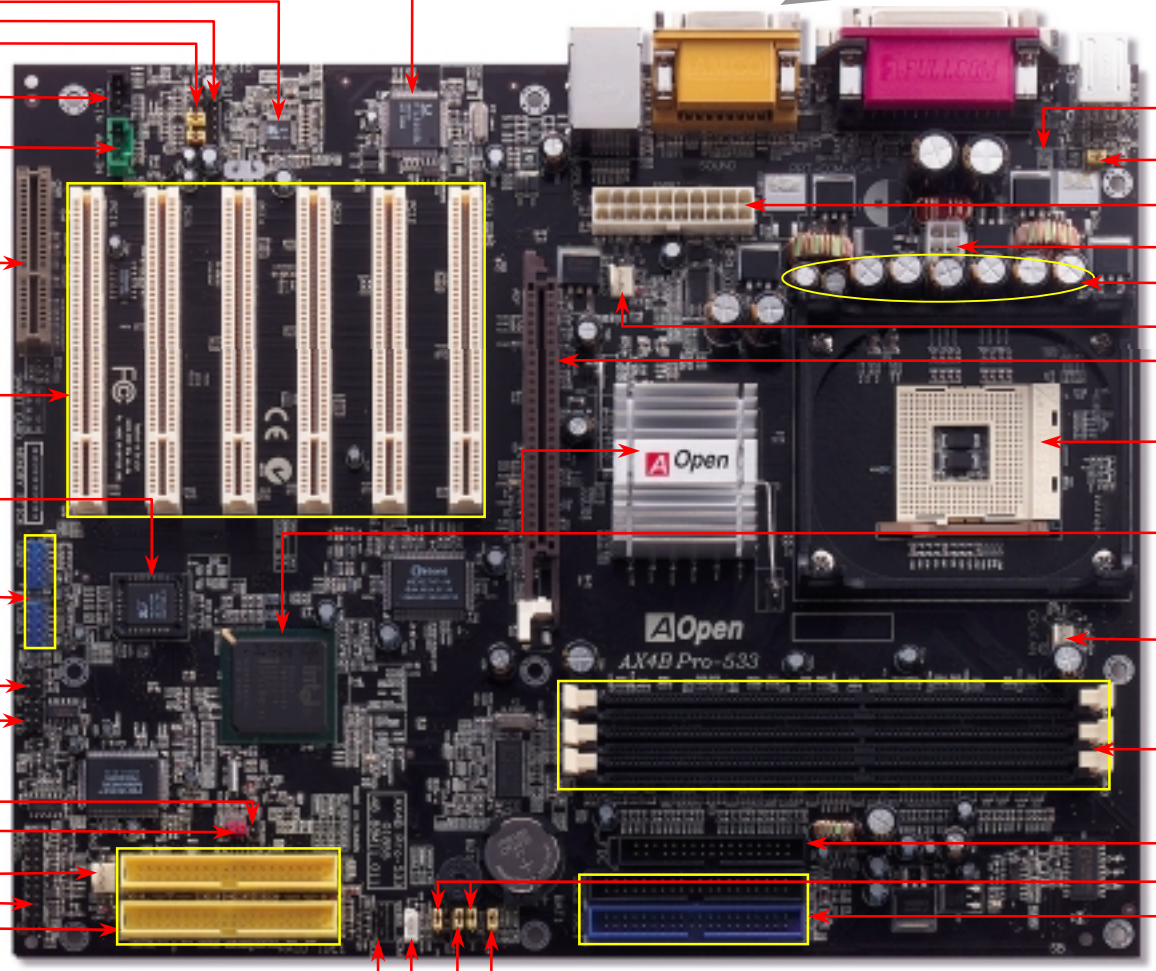
AOpen
Solutions·Components

AX4B Pro-533

Easy Installation Guide





RealTek 8100BL LAN Chip
Onboard AC'97 CODEC
S/PDIF Connector
Front Audio Connector
CD-IN Connector
AUX-IN Connector
CNR Expansion Slot
32-bit PCI Expansion Slot x6
4MB Flash ROM BIOS
2nd and 3rd USB Connectors
IrDA Connector
Dr. LED Connector
Chassis Intrusion Connector
JP14 CMOS Clear Jumper
FAN3 Connector
Front Panel Connector
ATA/133 Connector x2
WOM Connector
WOL Connector

Resettable Fuse
JP28 Keyboard/Mouse Wakeup Enable/Disable Jumper
ATX Power Connector
4-pin 12V. ATX Power Connector
3300 μF Low ESR Capacitors
FAN2 Connector
AGP 4x Expansion Slot (for 1.5V AGP card)
478-pin CPU socket with Voltage and Frequency Auto-detection supporting Intel® Pentium® 4
Intel® 845E chipset (Brookdale)
CPU Fan Connector with H/W Monitoring Function
184-pin DIMM Socket x3 supports DDR200/266 DDR SDRAM maximum up to 2 GB
FDD Connector
JP1 & JP2 Buzzer/Speaker Jumper
ATA/33/66/100 IDE Connector x2
JP15 & JP16 Dr. Voice Language Select Jumper

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

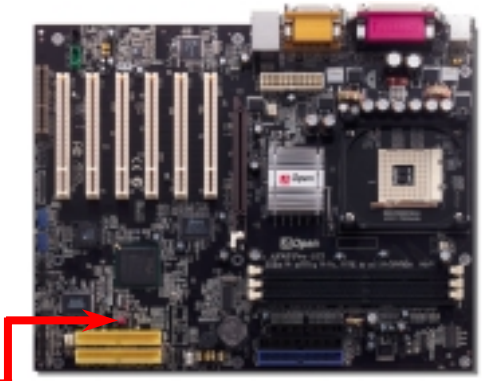
- ***This Motherboard x1***
- ***This Easy Installation Guide x1***
- ***User Manual x 1***
- ***80-wire IDE Cable x2***
- ***Floppy Disk Drive Cable x1***
- ***Bonus Pack CD x1***
- ***NORTON AntiVirus CD x1***
- ***IO Shield x1***

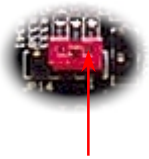
PART NO: 49.88M10.E01 DOC. NO: AX4BP533-EG-E0203A

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.





Clear CMOS

Normal (default)

Tip: *When should I Clear CMOS?*

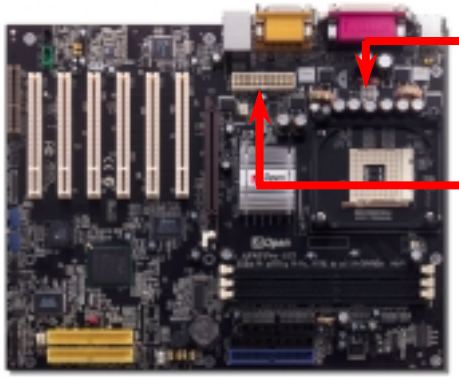
1. Boot fail because of overclocking…

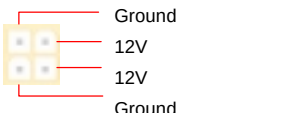
2. Forget password…

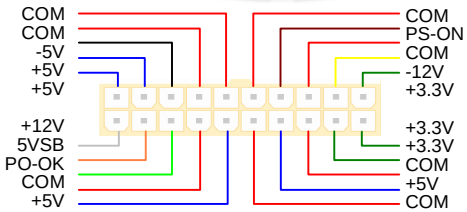
3. Troubleshooting…

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.



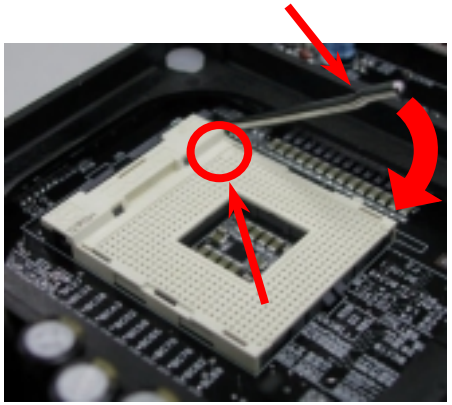




3. Installing Processor

This socket supports Micro-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 socket lever



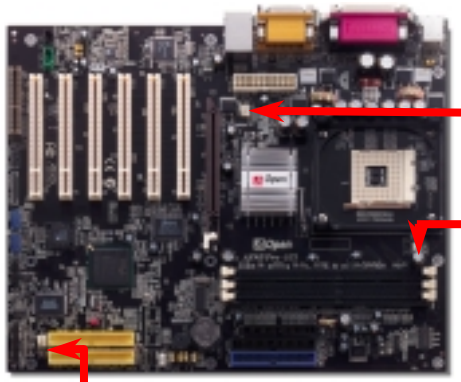
CPU Pin 1 and cut edge

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.

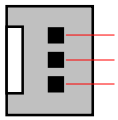
Note: *If you do not match the CPU socket Pin 1 and CPU cut edge well, you may damage the CPU.*

4. Installing CPU & System Fan

Plug in the CPU fan cable to the 3-pin **CPU FAN** connector. If you have chassis fan, you can also plug it in **FAN2** or **FAN3** connector.



FAN2 Connector



CPU Fan Connector

FAN3 Connector

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

5. Setting CPU Voltage & Frequency

Setting CPU Core Voltage

This motherboard supports CPU VID function. The CPU core voltage will be automatically detected and the range is from 1.10V to 1.85V. It is not necessary to set CPU core voltage.

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 Speed Setting

Core Frequency = CPU FSB Clock * CPU Ratio

CPU Ratio	8x, 9x, 10x… 21x, 22x, 23x, 24x
CPU FSB	100~248MHz by 1MHz stepping

Northwood CPU	CPU Core Frequency	FSB Clock	System Bus	Ratio
Pentium 4 1.6G	1600MHz	100MHz	400MHz	16x
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 2.4G	2400MHz	100MHz	400MHz	24x
Pentium 4 2.4G	2400MHz	133MHz	533MHz	18x

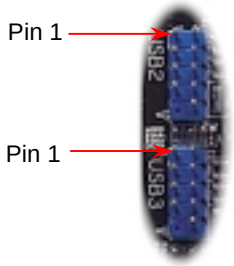
Warning: *Intel® 845E chipset supports maximum 400MHz (100MHz*4) / 533MHz (133MHz*4) system bus and 66MHz AGP clock; higher clock setting may cause serious system damage.*

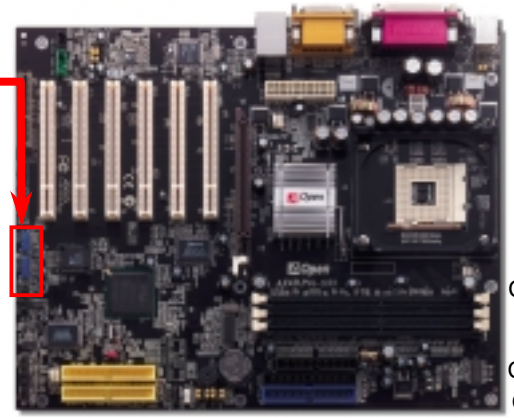
Willamette CPU	CPU Core Frequency	FSB Clock	System Bus	Ratio
Pentium 4 1.5G	1500MHz	100MHz	400MHz	15x
Pentium 4 1.6G	1600MHz	100MHz	400MHz	16x
Pentium 4 1.7G	1700MHz	100MHz	400MHz	17x
Pentium 4 1.8G	1800MHz	100MHz	400MHz	18x
Pentium 4 1.9G	1900MHz	100MHz	400MHz	19x
Pentium 4 2.0G	2000MHz	100MHz	400MHz	20x

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.*

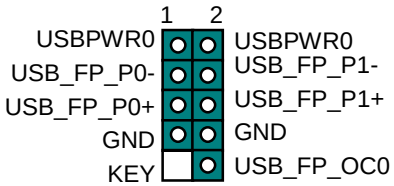
6. Support 2nd and 3rd USB2.0 Ports

This motherboard provides six USB2.0 ports to connect USB devices such as mouse, keyboard, modem, printer, etc. There are two connectors on the PC99 back panel. You can use proper cables to connect USB devices from PC99 back panel or connect USB2 and USB3 headers to the front panel of chassis.



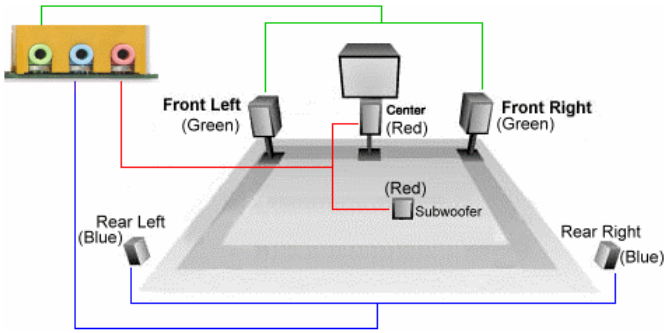


USB2 and USB3 Connector



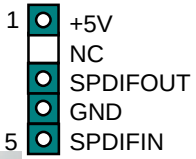
7. Super 5.1 Channel Audio Effect

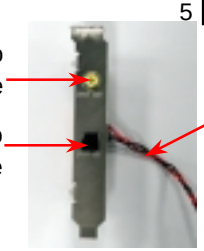
This motherboard comes with an ALC650 Codec which supports high quality of 5.1 Channel audio effect, bringing you a brand new audio experience. On the strength of the innovative design of ALC650, you're able to use standard line-jacks for surround audio output without connecting any external module. 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 bellow represents the standard location of all speakers in 5.1 Channel sound track. 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.

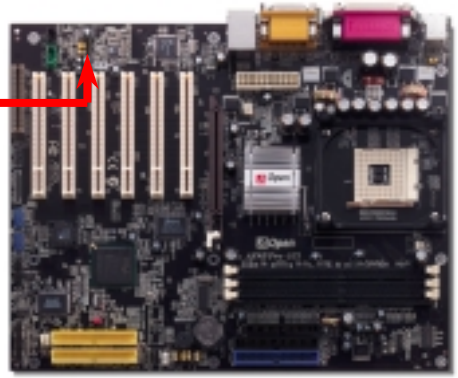


8. S/PDIF Connector

S/PDIF (Sony/Philips Digital Interface) is a latest audio transfer file format that provides impressive quality through optical fiber and allows you to enjoy digital audio instead of analog. 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 a even better audio quality. Through a specific audio cable, you can connect the SPDIF connector to a S/PDIF audio module bearing S/PDIF digital output. However, you must have a S/PDIF supported speaker with SPDIF digital input to make the most of this function.



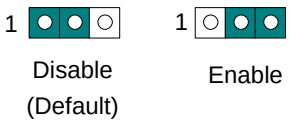




9. JP28 Keyboard/Mouse Wakeup Select Jumper

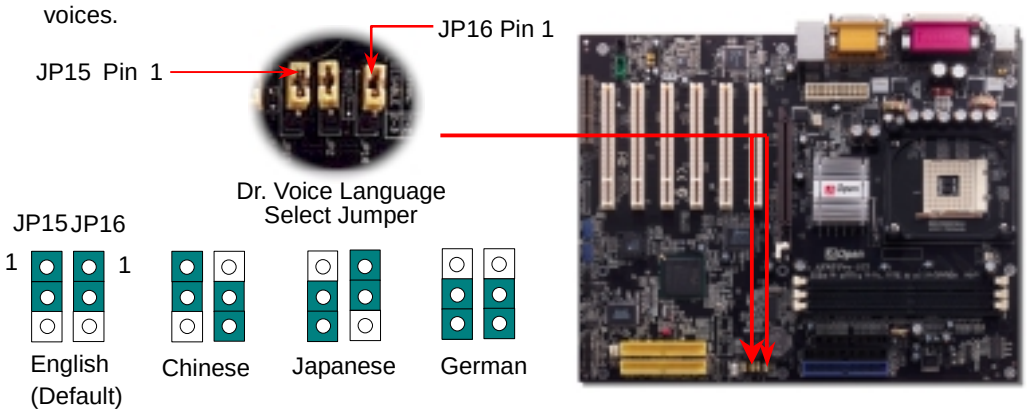
This motherboard provides keyboard / mouse wake-up function. You can use JP28 to enable or disable this function, which could resume your system from suspend mode with keyboard or mouse. The factory default setting is set to "Disable"(1-2), and you may enable this function by setting the jumper to 2-3.

JP28
KB/Mouse Wake-up



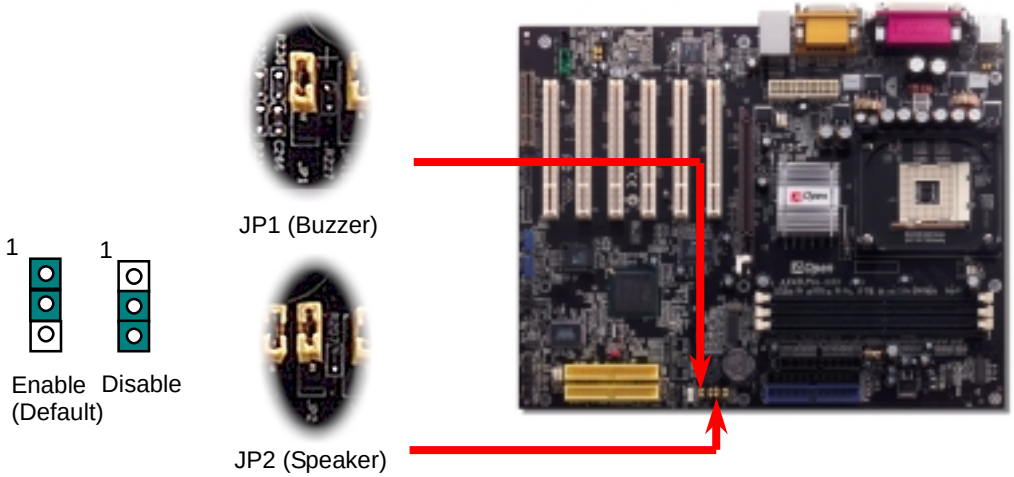
10. Dr. Voice

Dr. Voice is a great feature of AX4B Pro-533, which can identify the problems you may encounter in the operating system. It can clearly "**tell you**" whether the problem is caused from components or improper installation such as CPU, memory module, VGA, PCI add-on card, FDD, HDD or keyboard. Dr. Voice provides four language versions: **English**, **German**, **Japanese** and **Chinese**. You can select your preferred language by **JP15** & **JP16** jumpers. However, if you want to disable this function, you may also adjust both JP1 and JP2 and set them to pin 2-3 to disable the buzzer and speaker from making out voices.



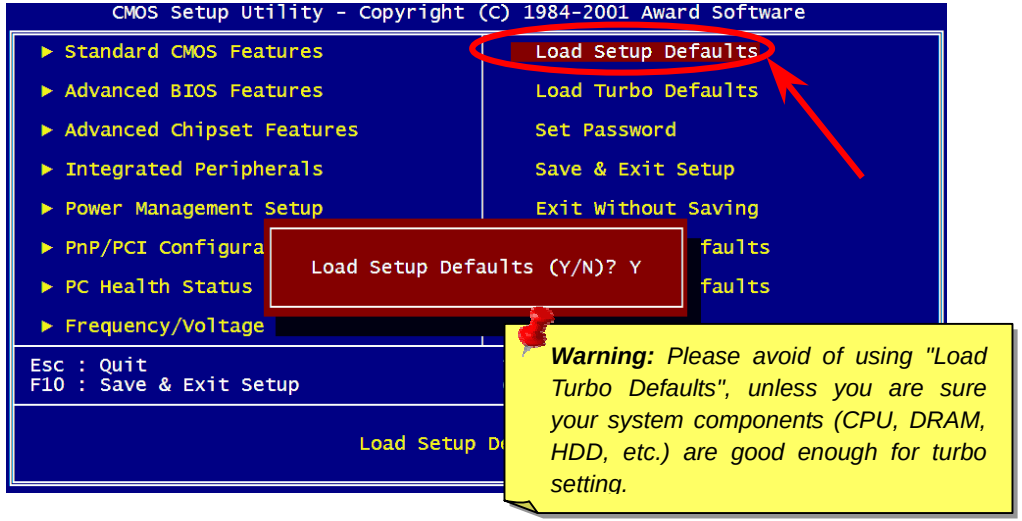
11. JP1 Buzzer and JP2 Speaker Jumpers

This motherboard comes with another considerate option that allows you to turn off the voice from buzzer and speaker. You can choose not to be bothered by the warning made from Dr. Voice when it detects any error in operating system. To disable this function, set JP1 and JP2 to pin 2-3 to stop both buzzer and speaker from sending out voices.



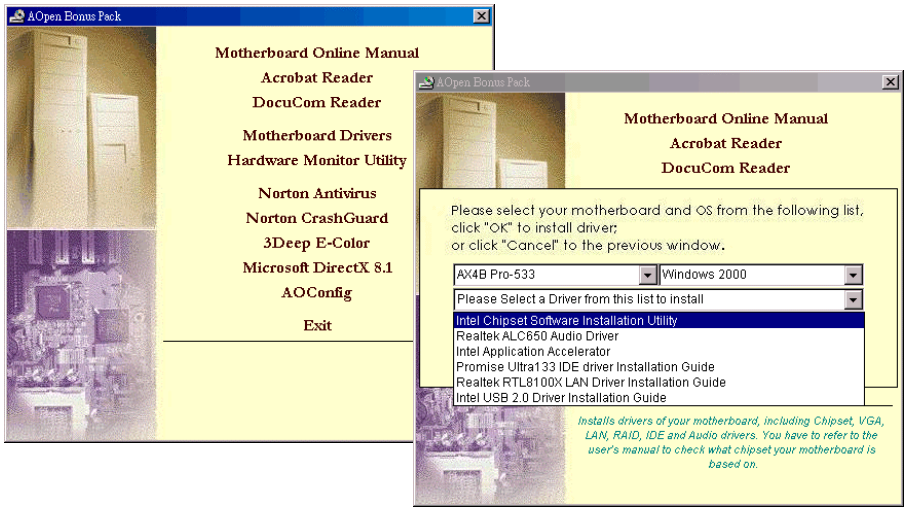
12. Power-on and Load BIOS Setup

After you finish jumper settings and connect correct cables, power on and enter the BIOS Setup. Press <Del> during POST (Power On Self Test). Choose "Load Setup Defaults" for recommended optimal performance.



13. AOpen Bonus Pack CD

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



14. Installing LAN Driver

Installing driver for Win98/Win98 SE/Windows2000/Windows ME/Windows XP:

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1. Ask you to select which driver you want to install, select "Driver from disk provided by hardware manufacturer".
2. Specify the setup file pathname

[CD-ROM]:Driver\LAN\RTL8100\Windows\WIN98 (for Windows 98/98 SE) or

[CD-ROM]:Driver\LAN\RTL8100\Windows\WIN2000 (for Windows 2000) or

[CD-ROM]:Driver\LAN\RTL8100\Windows\WINME (for Windows ME) or

[CD-ROM]:Driver\LAN\RTL8100\Windows\WinXP (for Windows XP)

3. Win98/Win98 SE/Windows2000/Windows ME will appear some messages to insert Win98/Win98 SE/Windows2000/Windows ME system disk to complete setup step.
4. Win98/Win98 SE/Windows2000/Windows ME will finish the other installation procedure automatically, then you restart the system.

15. Installing ATA/133 Driver

Installing Driver During New Windows XP Installation

1. Start installation:
   a. Floppy Install: Boot the computer with Windows XP installation diskettes.
   b. Floppyless Install: Boot from floppy and type "WINNT". After files have been copied, the system will reboot. While rebooting, press <F6> after the message "Setup is inspecting your computer's hardware configuration..." appears.
   c. CD-ROM Install: Boot from the CD-ROM. Press <F6> after the message "Press F6 if you need to install third party SCSI or RAID driver" appears.
2. When "Windows XP Setup" window pops up, press "S" to specify an Additional Device(s).
3. Copy all directories and files in "[CD-ROM]:\Driver\Promise\20275" to floppy disk.
4. Place the Promise Technology driver diskette into drive A: and press "Enter" key.
5. Use " ↑ " or " ↓ " to choose "WinXP Promise ATA/133 TX2 (tm) Controller" from the list that appears on screen, and then press "Enter" key.

NOTE: Immediately following the loading of the selected driver the Installation Program will notify you that "The driver you provided seems to be newel than the Windows default driver. Windows already has a driver that you can use for "WinXP Promise ATA/133 TX2 (tm) IDE Controller". Unless the device manufacture prefers that you use the driver on the floppy disk, you should use the driver in Windows."

6. Press "S" to use the driver on the floppy disk, and then press "enter" to continue installation. If you press "enter" to use "Windows default driver", you will read the following error message in the next phase of the installation saying "Setup did not find any hard disk drives installed in your computer"

NOTE: Restart installation and then use option "S" to load driver from floppy disk.

7. The Windows XP Setup screen will appear again saying, "Setup will load support for the following mass storage devices:" The list will include "WinXP Promise ATA/133 TX2 (tm) IDE Controller".

NOTE: If you need to specify any additional devices to be installed, do so at this time. Once all devices are specified, proceed to next step.

8. From Windows XP Setup screen, press Enter key. Setup will now load all device files and then continues the Windows XP installation.

16. Installing USB2.0 Driver

Under Windows XP System

After enabling the USB 2.0, Windows XP setup will show a "Found New Hardware" dialog box. Under Windows XP, "Universal Serial Bus (USB) Controller" will be displayed.

1. Click "Next," and from the generated list box, choose "Install from a list or special location (Advanced)", click "Next".
2. Click "Next," and from the generated choices, choose "Include this location in the search:"
3. Place Bonus CD in CD-ROM.
4. Type "[CD-ROM]:\Driver\Intel\USB2.0" in the text box that appears.
5. Click on "Next." A message informing you that Windows XP has found "Intel (R) USB Enhanced Host Controller (ICH4)" should appear.
6. When the New Hardware Wizard has finished installing the USB driver, click "Finish".

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Confirming Windows XP Installation

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1. From Windows XP, open Control Panel from "My Computer".
2. Click "Performance and maintenance".
3. Click "System" icon.
4. Choose "Hardware" tab, and then click "Device Manager" tab.
5. Click "+" in front of "Universal Serial Bus Controllers". "Intel (R) USB Enhanced Host Controller (ICH4)" should appear.

NEW!

17. BIOS Upgrade

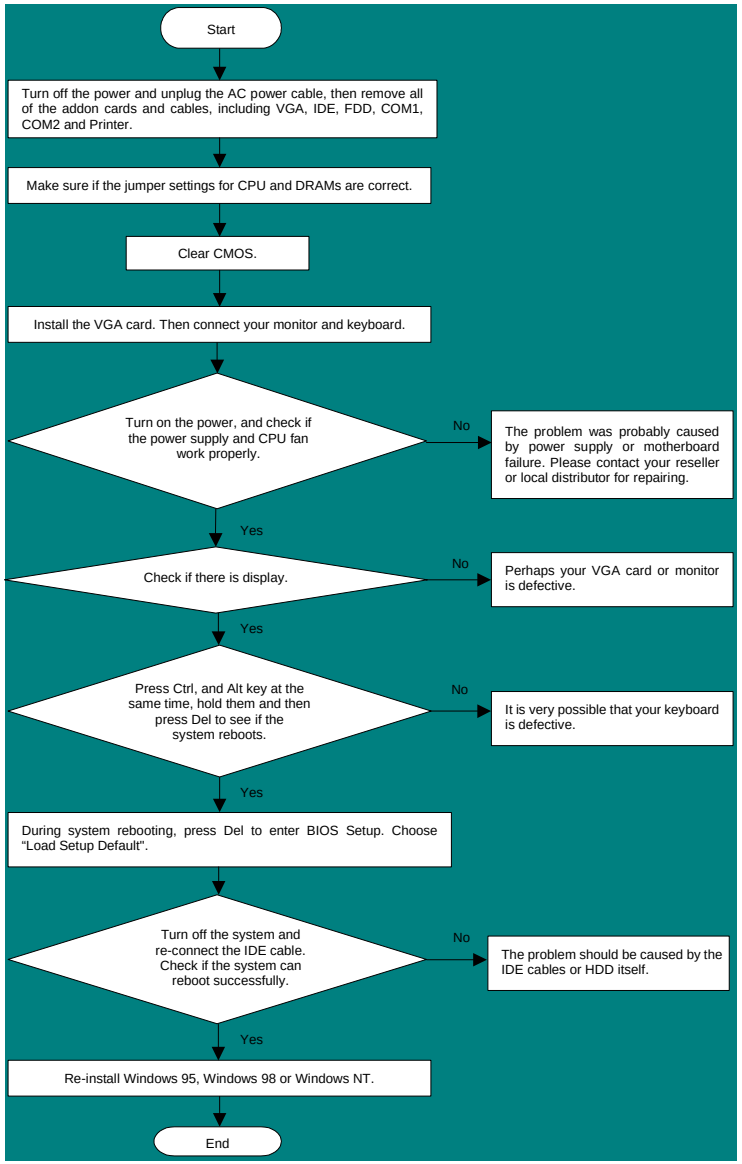
You may accomplish BIOS upgrade procedure with EZWinFlash by the following steps, and it's STRONGLY RECOMMMANDED to close all the applications before you start the upgrading.

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: WAX4BP533102.ZIP) with WinZip (http://www.winzip.com) in Windows environment.
3. Save the unzipped files into a folder, for example, WAX4BP533102.EXE & WAX4BP533102.BIN.
4. Double click on WAX4BP533102.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 <Del> 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.

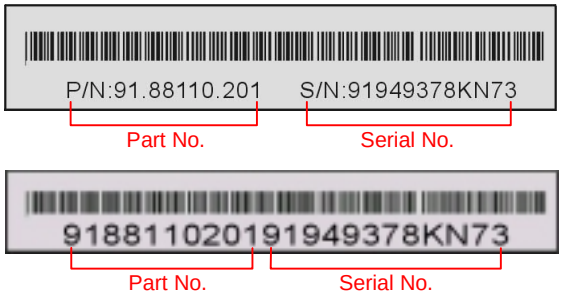
Troubleshooting

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



Part Number and Serial Number

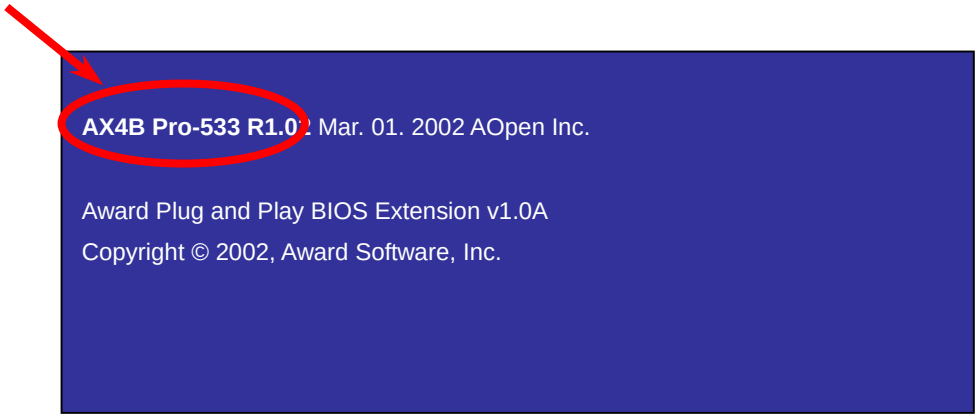
The Part Number and Serial number are printed on bar code label. You can find this bar code label on the outside packing, on ISA/CPU slot or on component side of PCB. For example:



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:



AX4B Pro-533 is model name of motherboard; **R1.02** is BIOS version

Technical Support

Dear Customer,

Thanks for choosing AOpen products. To provide the best and fastest service to our customer is our first priority. However, we receive numerous emails and phone-calls worldwide everyday, it is very hard for us to serve everyone on time. We recommend you follow the procedures below and seek help before contact us. With your help, we can then continue to provide the best quality service to more customers.

Thanks very much for your understanding!

AOpen Technical Supporting Team

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Tel: 86-21-6225-8622
Fax: 86-21-6225-7926

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AOpen Computer GmbH.
Tel: 49-2102-157700
Fax: 49-2102-157799

America
AOpen America Inc.
Tel: 1-408-922-2100
Fax: 1-408-922-2935

Japan
AOpen Japan Inc.
Tel: 81-048-290-1819
Fax: 81-048-290-1820

Web Site: ***www.aopen.com***

E-mail: Send us email by going through the contact form below.

English	***http://www.aopen.com/tech/contact/techusa.htm***
Japanese	***http://www.aopen.co.jp/tech/contact/techjp.htm***
Chinese	***http://www.aopen.com.tw/tech/contact/techtw.htm***
German	***http://www.aopencom.de/tech/contact/techde.htm***
Simplified Chinese	***http://www.aopen.com.cn/tech/contact/techcn.htm***

1

Online Manual: Please check the manual carefully and make sure the jumper settings and installation procedure are correct.
http://www.aopen.com/tech/download/manual/default.htm

2

Test Report: We recommend to choose board/card/device from the compatibility test reports for assembling your PC.
http://www.aopen.com/tech/report/default.htm

3

FAQ: The latest FAQ (Frequently Asked Questions) may contain a solution to your problem.
http://www.aopen.com/tech/faq/default.htm

4

Download Software: Check out this table to get the latest updated BIOS/utility and drivers.
http://www.aopen.com/tech/download/default.htm

5

News Group: News posted by computer experts. You are welcome to join any discussion trere.
http://www.aopen.com/tech/newsgrp/default.htm

6

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 if next time you want to buy something else from them.

7

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.