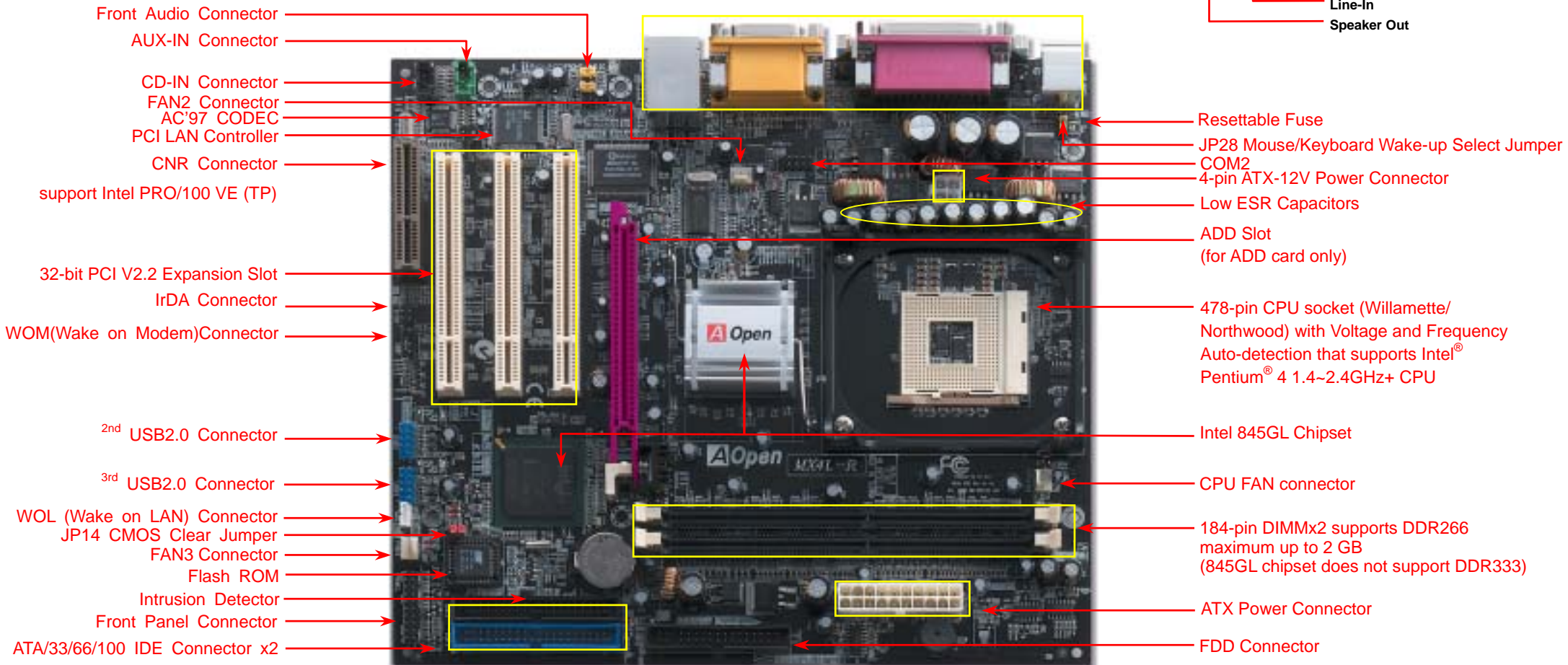
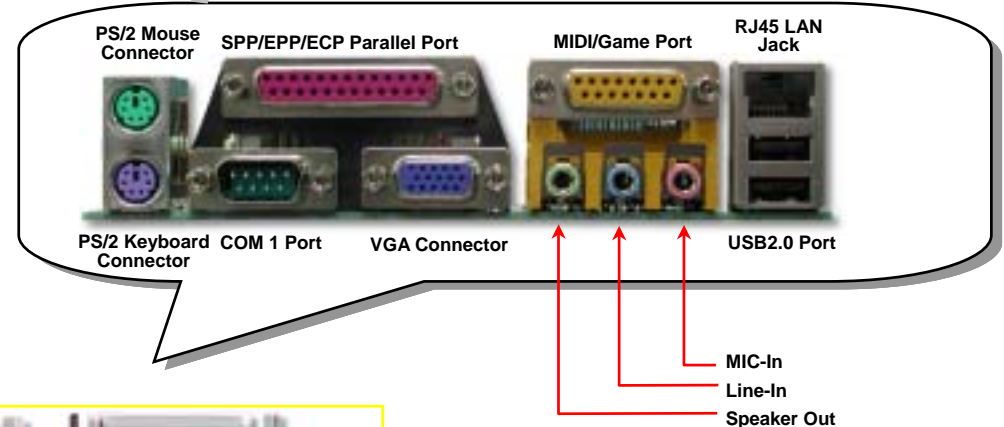


MX4LR

Easy Installation Guide



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.

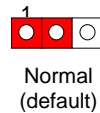
Accessory Checklist

- ✓ **Motherboard x1**
- ✓ **This Easy Installation Guide x1**
- ✓ **80-wire IDE Cable x1**
- ✓ **Floppy Disk Drive Cable x1**
- ✓ **Bonus Pack CD x1**
- ✓ **IO Shield x1**

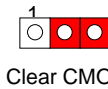
1. JP14 Clear CMOS

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.



Normal (default)



Clear CMOS

Pin 1

Tip: When should I Clear CMOS?

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

2. S/PDIF (Sony/Philips Digital Interface) Connector

S/PDIF (Sony/Philips Digital Interface) is a newest audio transfer file format, which provides impressive quality through optical fiber and allows you to enjoy digital audio instead of analog audio. 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. 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. However, you must have a S/PDIF supported speaker with S/PDIF digital input to connect to the S/PDIF digital output to make the most out of this function.

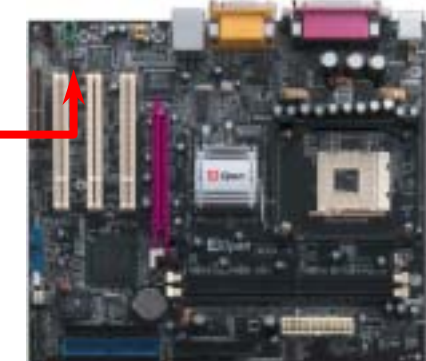
Connecting to
RCA Cable

Connecting to
Optical Cable



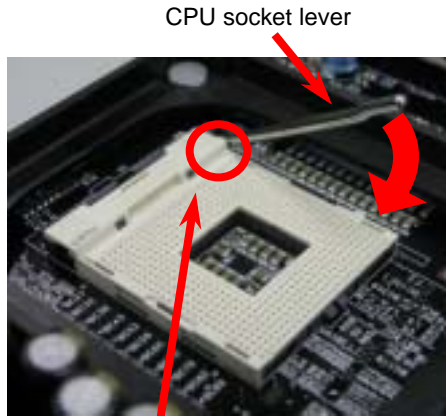
Pin 1
Audio
cable

- 1 ● +5VSB
- NC
- S/PDIFOUT
- GND
- S/PDIFIN



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.



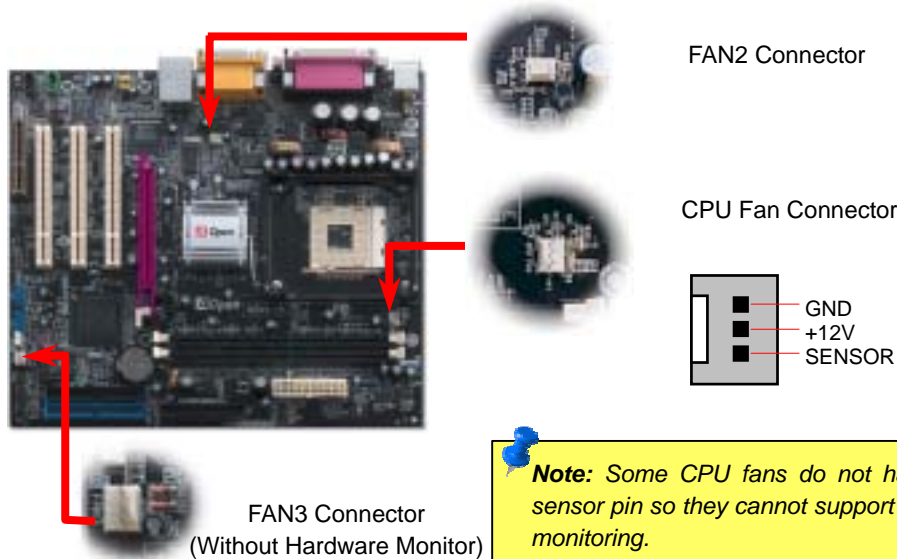
1. Pull up the CPU socket lever and up to 90-degree angle.
2. Locate Pin 1 in the socket and look for a (golden) cut edge on the CPU upper interface. Match Pin 1 and cut edge. Then insert the CPU into the socket.
3. Press down the CPU socket lever and finish CPU installation.

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

CPU Pin 1 and cut edge

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 on **System FAN** (FAN2) or **AUX FAN** (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.

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. The default setting is "table select mode". You can adjust the FSB from "CPU Host/SDRAM/PCI Clock" for overclocking.

BIOS Setup > Frequency / Voltage Control > CPU Speed Setup

CPU Ratio	10x... 21x, 22x, 23x, 24x
CPU FSB (By BIOS table)	100~248MHz

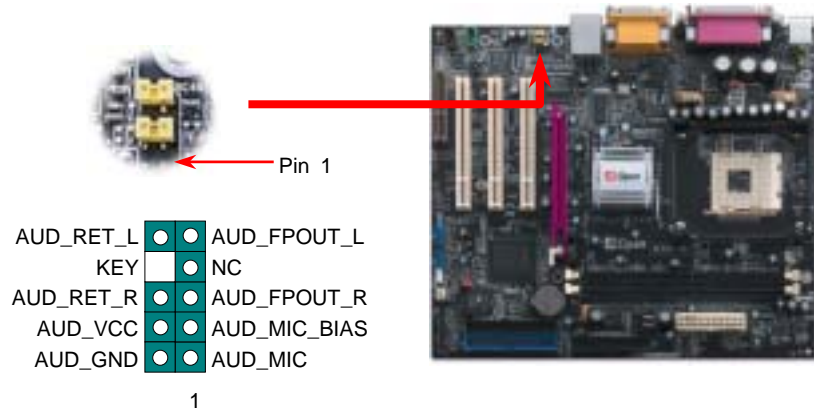
Northwood CPU	CPU Core Freq	FSB Clock	System Bus	Ratio
Pentium 4 1.6G	1600MHz	100MHz	400MHz	16x
Pentium 4 1.8G	1800MHz	100MHz	400MHz	18x
Pentium 4 2.0G	2000MHz	100MHz	400MHz	20x
Pentium 4 2.2G	2200MHz	100MHz	400MHz	22x
Pentium 4 2.4G	2400MHz	100MHz	400MHz	24x
Willamette CPU	CPU Core Freq	FSB Clock	System 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

Warning: Intel® 845 GL chipset supports maximum 400MHz (100MHz*4) 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.

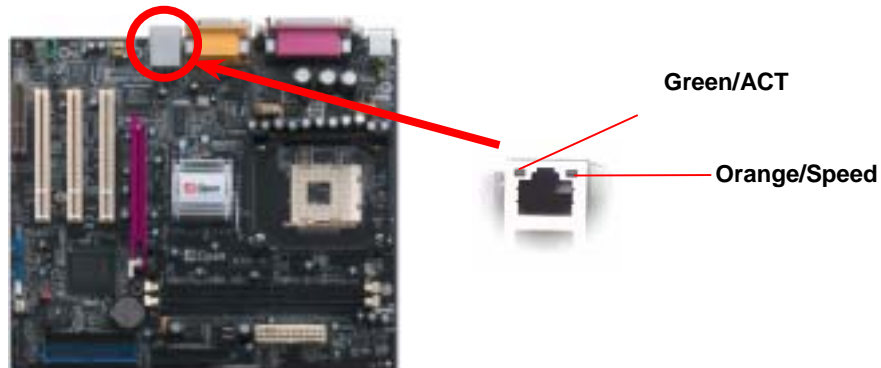
10. Front Audio Connector

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 5-6 and 9-10 jumper caps from the Front Audio Connector before connecting the cable. Please do not remove these 5-6 and 9-10 yellow jumper caps if there's no audio port on the front panel.



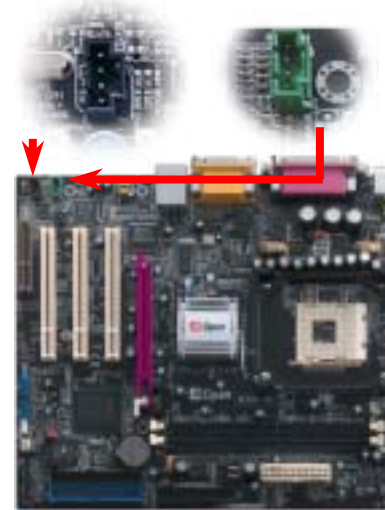
11. Support 10/100 Mbps LAN onboard

On the strength of Realtek RTL8100 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 green LED indicates the link mode, it lights when linking to network and blinking when transferring data. The orange LED indicates the transfer mode, and it lights when data is transferring in 100Mbps mode. To enable or disable this function, you may simply adjust it through BIOS.



12. Connecting CD-IN /AUX-IN Connector

CD-IN (Black) AUX-IN (Green)



The **AUX-IN** connector is used to connect MPEG Audio cable from MPEG card to onboard sound.

The **CD-IN** connector is used to connect CD Audio cable from CDROM or DVD drive to onboard sound.

Connector	Pin1	Pin2	Pin3	Pin4
AUX-IN	Left	GND	GND	Right
CD-IN	Left	GND	GND	Right

13. Installing LAN Driver

You can install LAN Driver under WindowsME/98, Windows NT, Windows 2000 and Windows XP for RealTek RTL8100 PCI Fast Ethernet adapter by following steps.

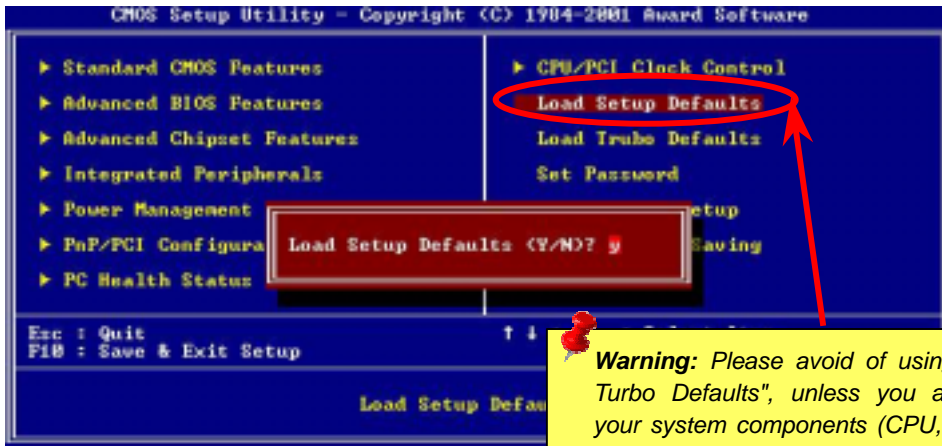
Installing driver for Win98/Win98 SE/Windows2000/Windows ME/Windows XP:

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.

14. Power-on and Load BIOS Setup

Del

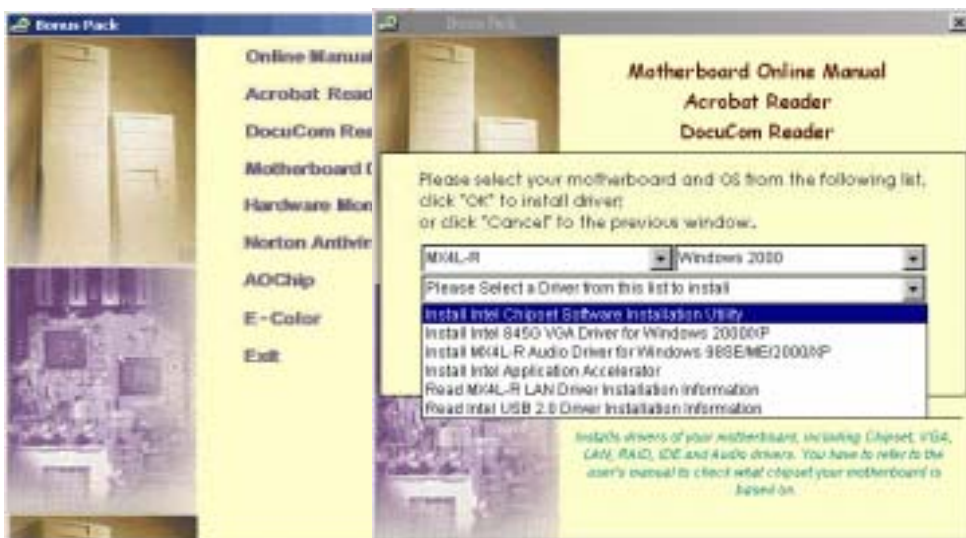
After you finish the setting of jumpers and connect correct cables. Power on and enter the BIOS Setup, press during POST (Power On Self Test). Choose "Load Setup Defaults" for recommended optimal performance.



Warning: Please avoid of using "Load Turbo Defaults", unless you are sure your system components (CPU, DRAM, HDD, etc.) are good enough for turbo setting.

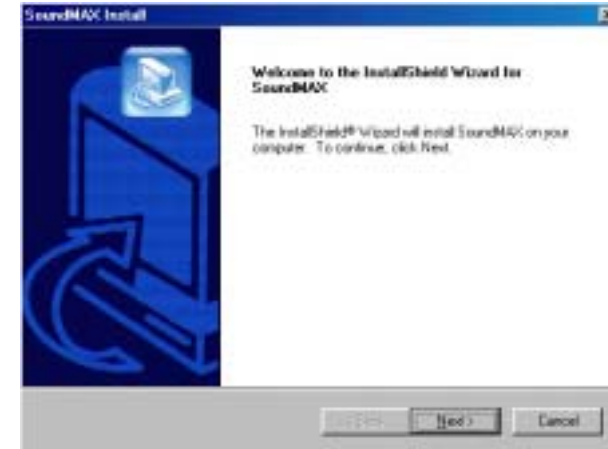
15. AOpen Bonus Pack CD

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



16. Installing Onboard Sound Driver

This motherboard comes with an AD1981 AC97 CODEC, you can find the audio driver from the Bonus Pack CD disc auto-run menu.



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.

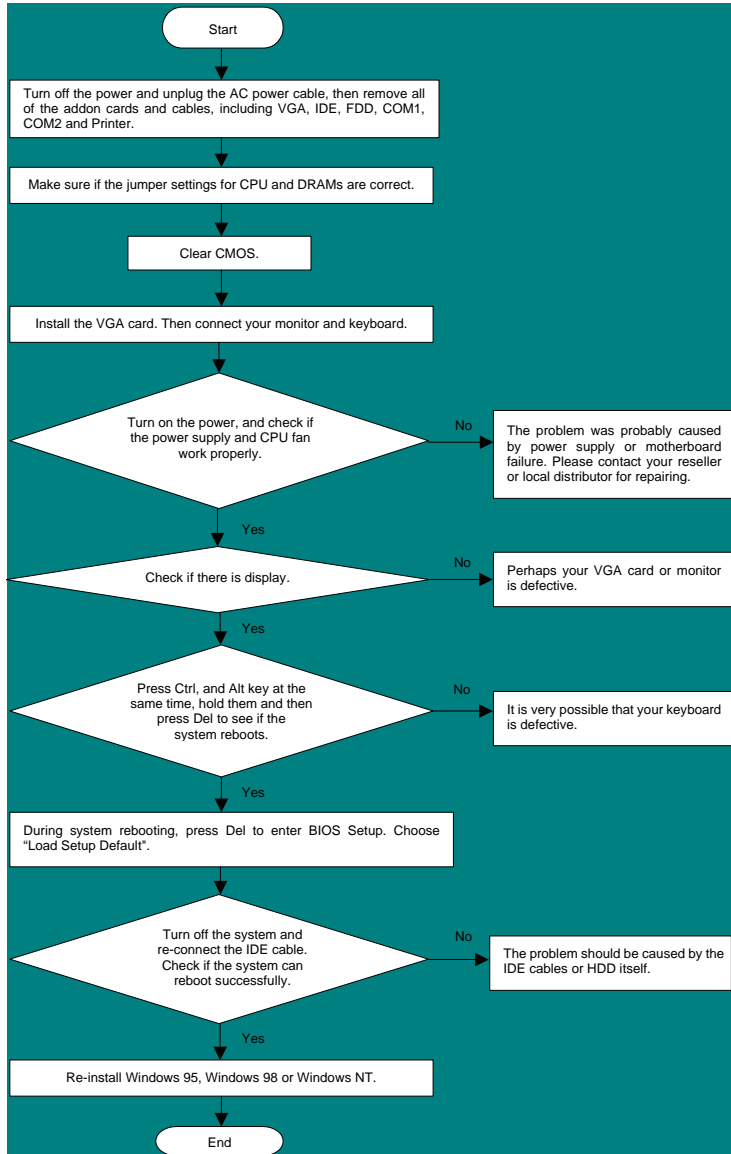
1. Download the new version of BIOS package zip file from AOpen official web site. (ex: <http://www.aopen.com>)
2. Unzip the download BIOS package (ex: WMX4LR102.ZIP) with WinZip (<http://www.winzip.com>) in Windows environment.
3. Save the unzipped files into a folder, for example, WMX4LR102.EXE & WMX4LR102.BIN.
4. Double click on the WMX4LR102.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!

Warning: The upgrade of new BIOS will permanently replace your original BIOS content after flashing. The original BIOS setting and Win95/Win98 PnP information will be refreshed and you probably need to re-configure your system.



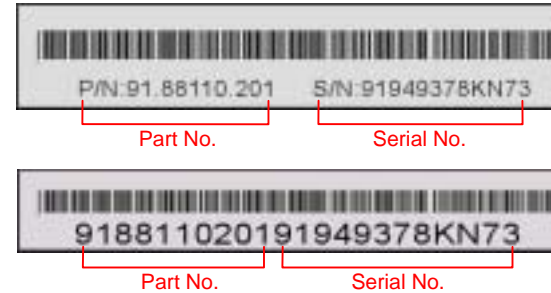
Troubleshooting

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, on PCI 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:



MX4LR is the model name of the motherboard; **R1.00** 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!

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German <http://www.aopencom.de/tech/contact/techde.htm>

French <http://france.aopen.com/tech/contact/techfr.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 choosing 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: Our support engineer or professional users on the news group probably had answered your problem.
<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.