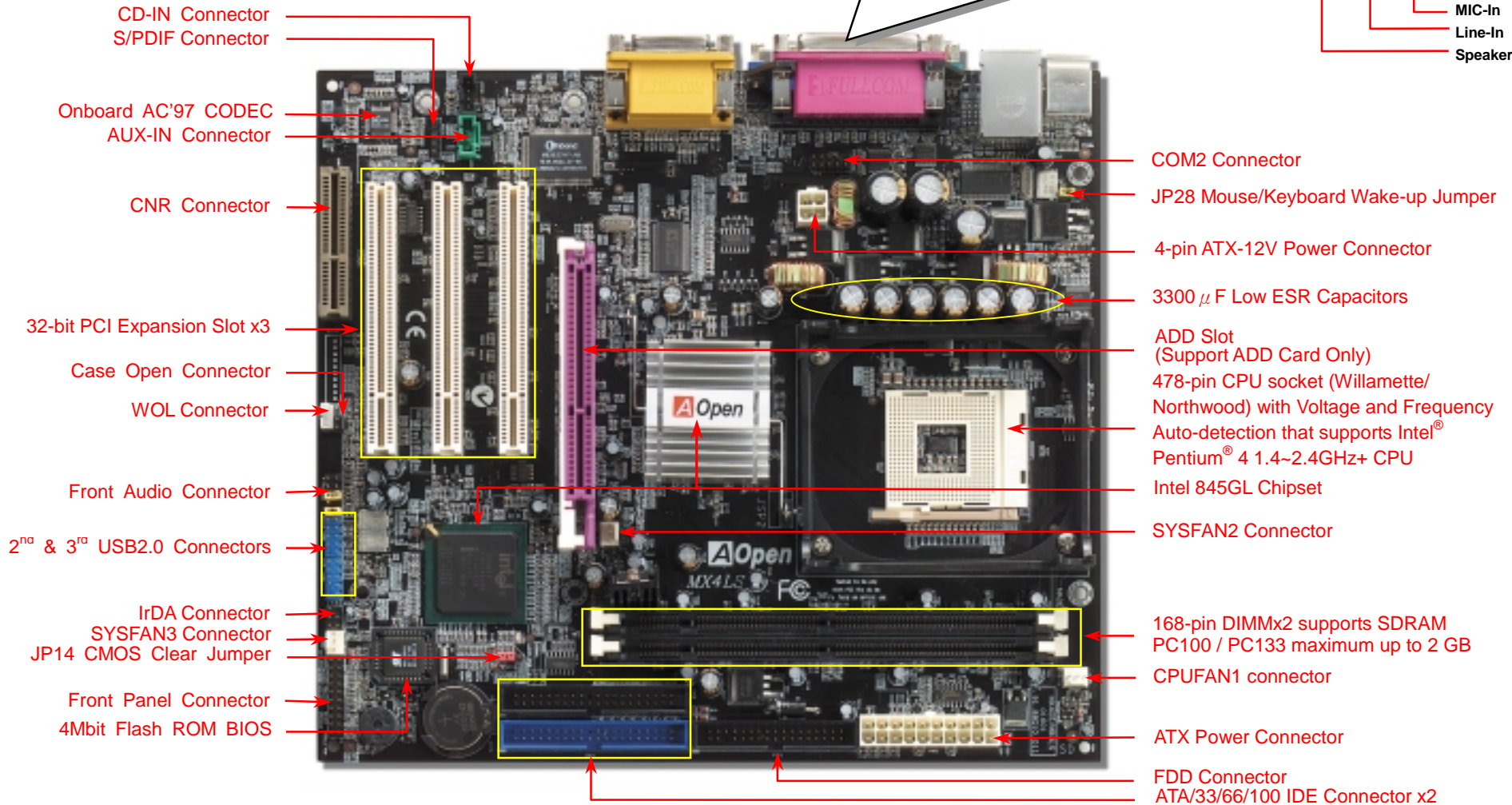
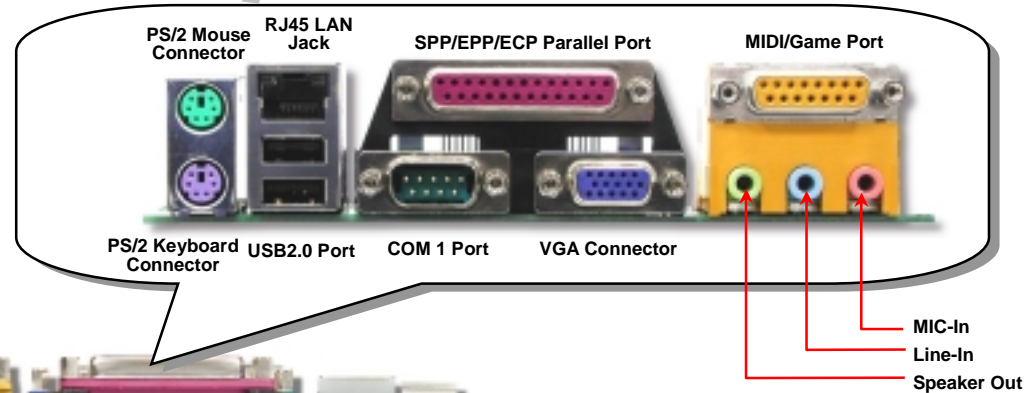


MX4LS

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
- Registration Card x1



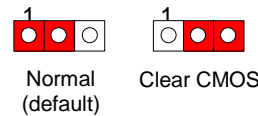
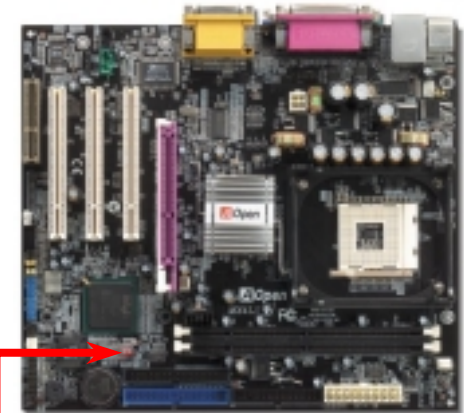
PART NO: 49.88Q01.E01

DOC. NO: MX4LS-EG-E0208B

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.

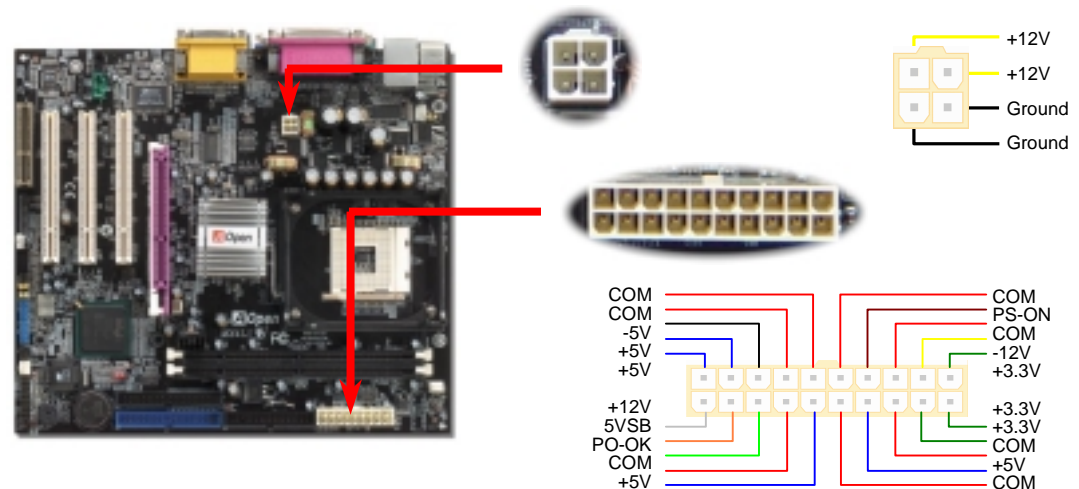


Tip: When should I Clear CMOS?

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

2. Connecting ATX Power Connector

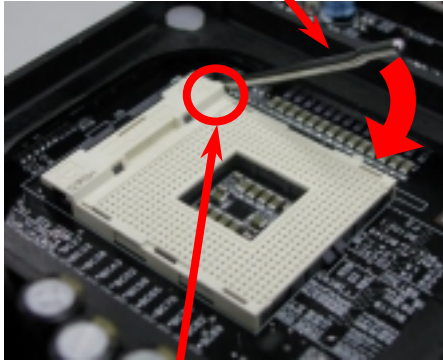
This motherboard comes with a 20-pin and 4-pin ATX power connector as shown below. Make sure you plug in the right direction. We strongly recommend you to insert the 4-pin connector before connecting the 20-pin connector.



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 socket lever



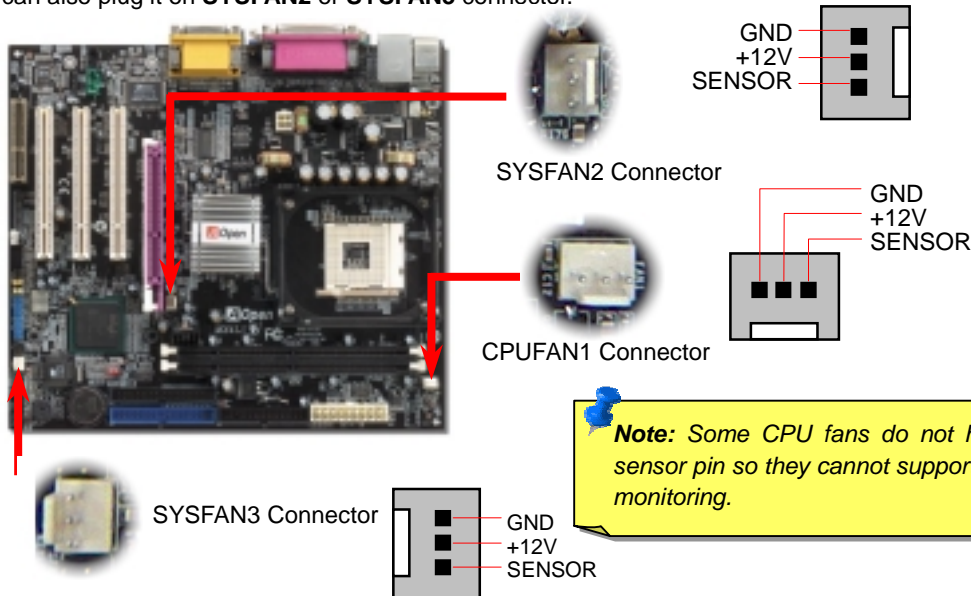
CPU Pin 1 and cut edge

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 **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 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 Manual)	100~248MHz

Northwood CPU	CPU Core Frequency	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 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

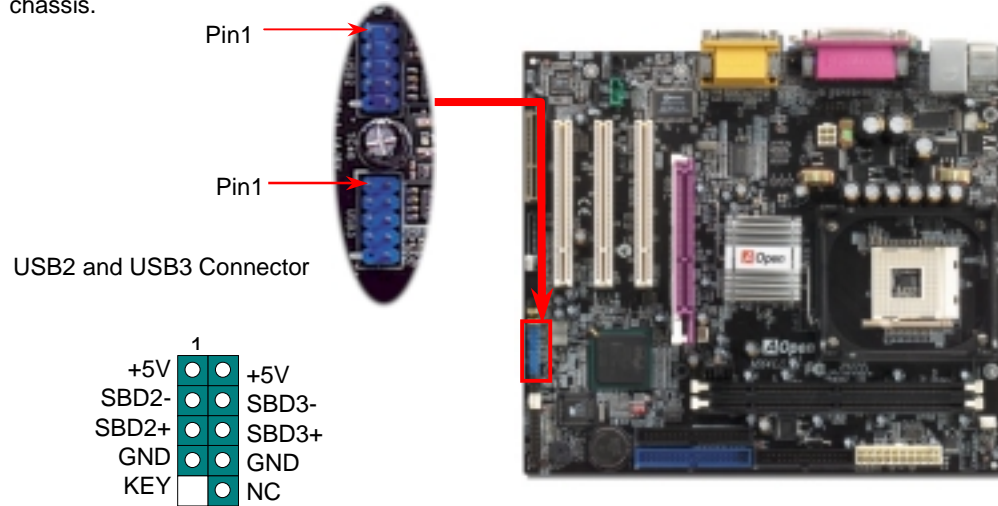
Celeron CPU	CPU Core Frequency	FSB Clock	System Bus	Ratio
1.7G	1700MHz	100MHz	400MHz	17x
1.8G	1800MHz	100MHz	400MHz	18x

Warning: Intel® 845GL 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.

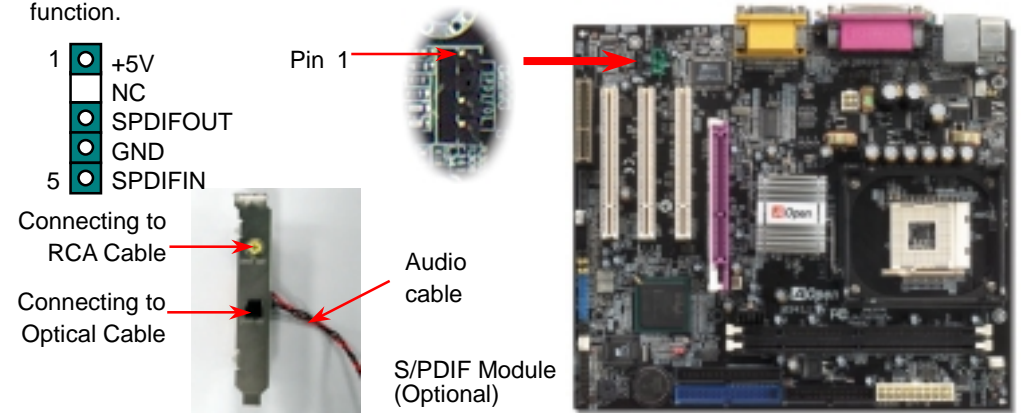
6. Support Six USB2.0 Connectors

This motherboard provides six [USB](#) connectors to connect USB devices, such as mouse, keyboard, modem, printer, etc. There are two connectors on the PC99 back panel. You can use proper cable to connect other USB connectors to the back panel or front panel of chassis.



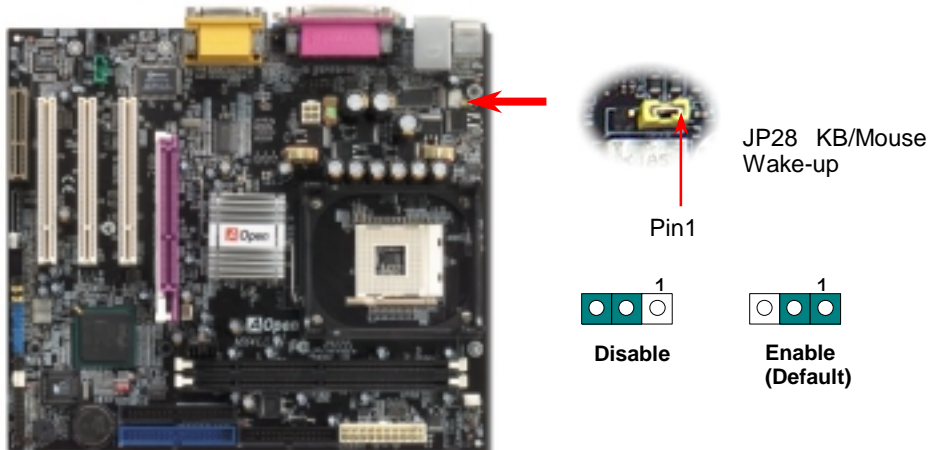
8. S/PDIF Connector

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 S/PDIF connector to a S/PDIF audio module bearing S/PDIF digital output. However, you must have a S/PDIF supported speaker with S/PDIF digital input to make the most of this function.



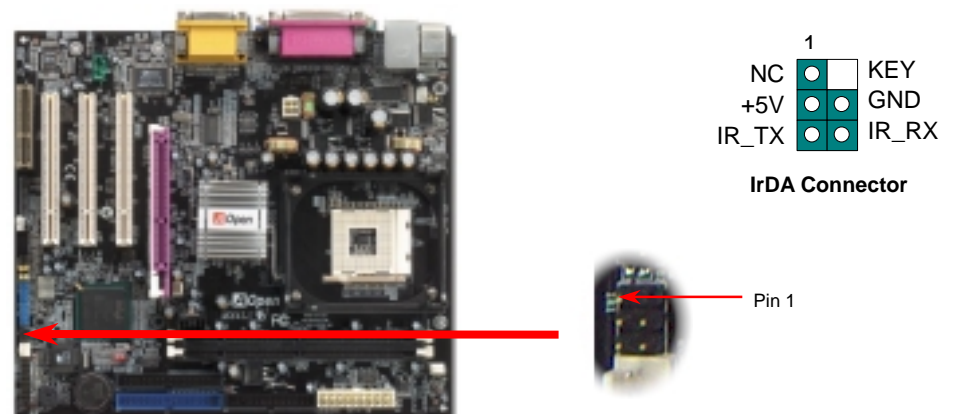
7. JP28 Keyboard/Mouse Wakeup Select Jumper

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 "Enable"(1-2), and you may disable this function by setting the jumper to 2-3.



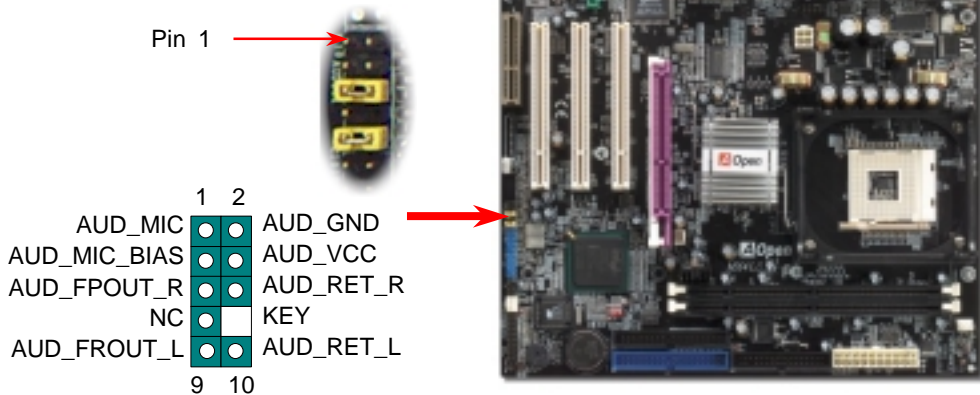
9. Connecting IrDA

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, 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 when you plug the IrDA connector in right orientation.



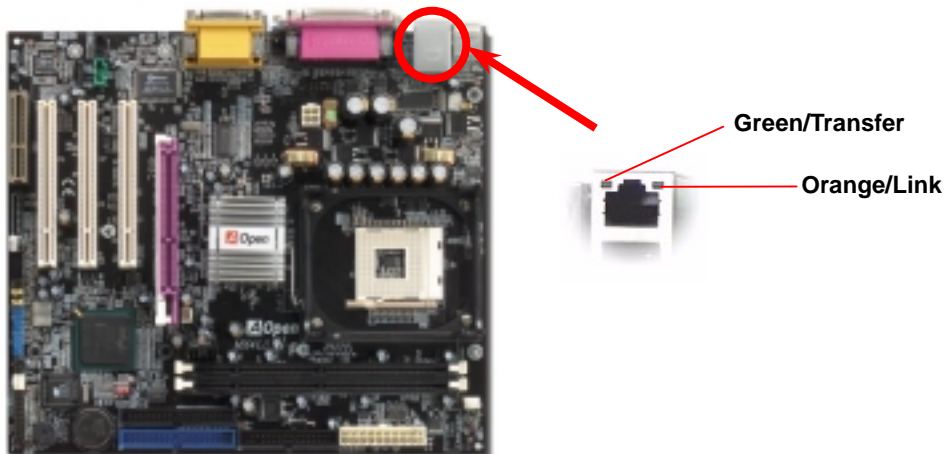
10. Front Audio Connector

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

The South Bridge includes a fast Ethernet controller on chip. 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 and blinking when transferring data. The green 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. Front Panel Connector

Attach the power LED, Keylock, speaker, power 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**.



13. Installing LAN Driver

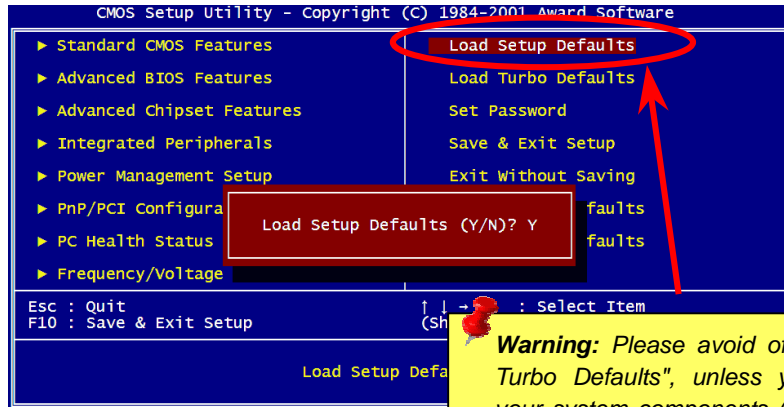
This motherboard comes with an Intel® 10/100Mbps LAN controller embedded within ICH4. You can find the LAN driver from the Bonus Pack CD.



14. Power-on and Load BIOS Setup

Del

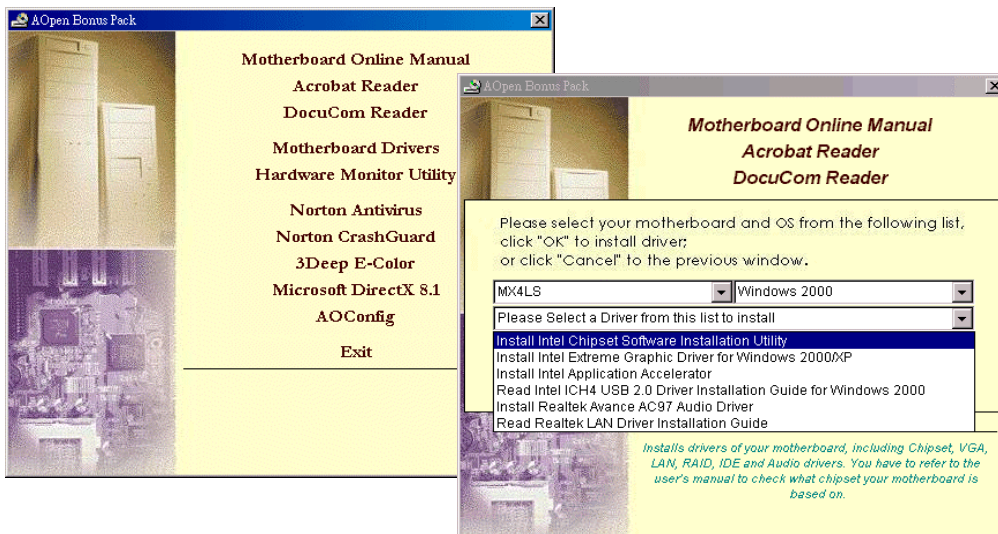
After you finish the setting of jumpers and connect correct cables. Power on and enter the BIOS Setup, press during POST (Power On Self Test). Choose "Load Setup Defaults" for recommended optimal performance.



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.

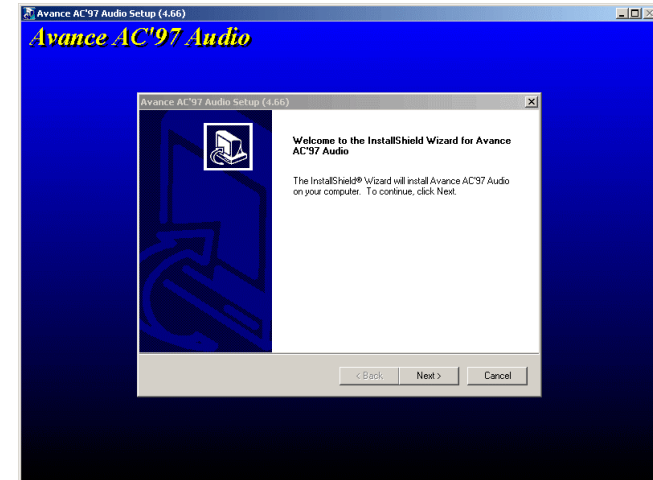
15. AOpen Bonus Pack CD

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



16. Installing Onboard Audio Driver

This motherboard comes with an AC97 CODEC, you can find the audio driver from the Bonus Pack CD 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.

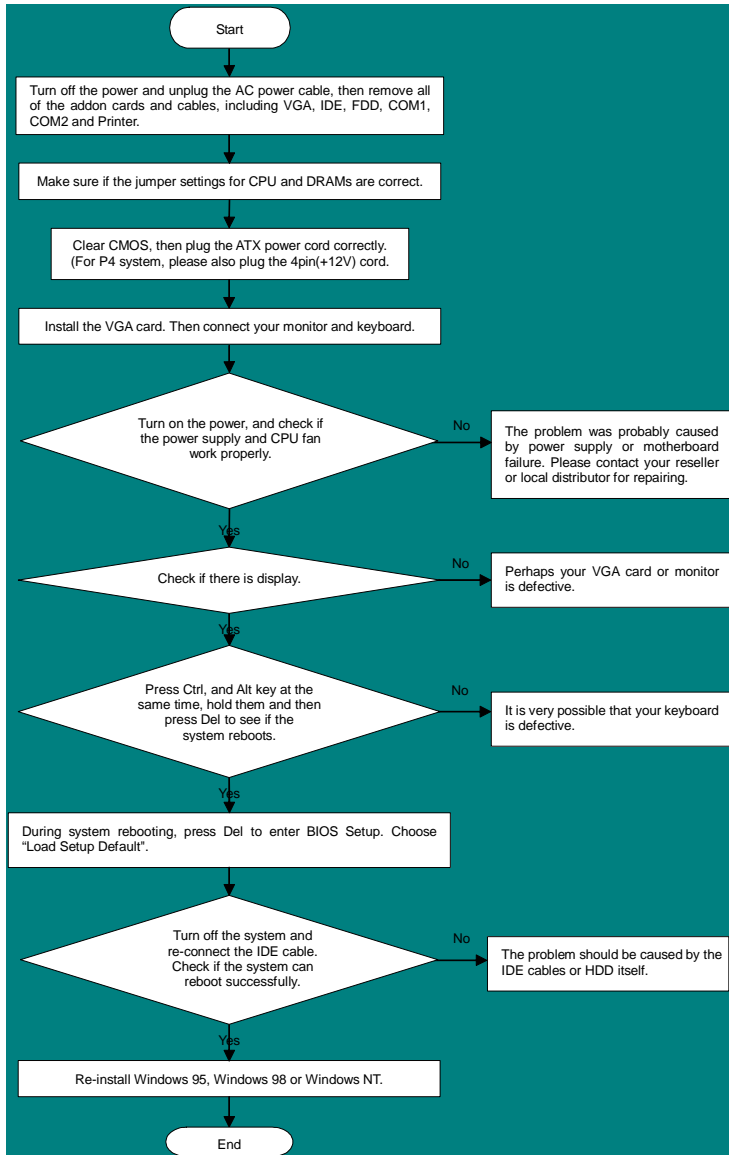
1. Download the new version of BIOS package zip file from AOpen official web site. (ex: <http://www.aopen.com>)
2. Unzip the download BIOS package (ex: WMX4LS102.ZIP) with WinZip (<http://www.winzip.com>) in Windows environment.
3. Save the unzipped files into a folder, for example, WMX4LS102.EXE & WMX4LS102.BIN.
4. Double click on the WMX4LS102.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.



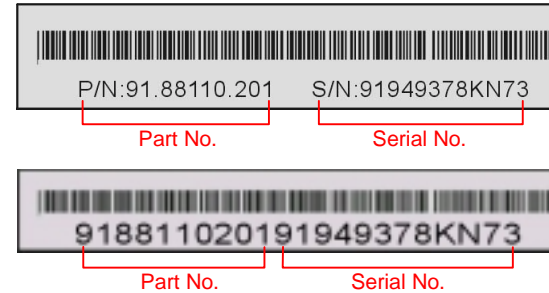
Troubleshooting

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



Part Number and Serial Number

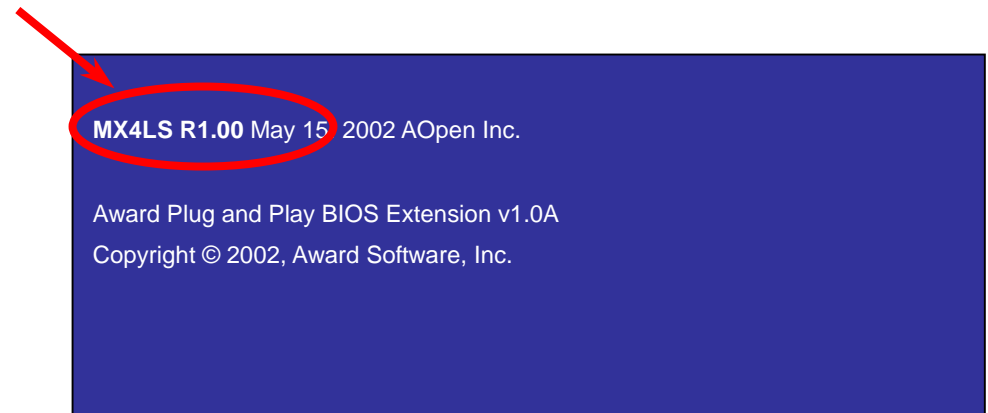
The Part Number and Serial number are printed on bar code label. You can find this bar code label on the outside packing, on PCI slot or on component side of PCB. For example:



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:



MX4LS 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!

AOpen Technical Supporting Team

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

Europe
AOpen Computer b.v.
Tel: 31-73-645-9516
Fax: 31-73-645-9604

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

Germany
AOpen Computer GmbH.
Tel: 49-1805-559191
Fax: 49-2102-157799

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

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

Web Site: <http://www.aopen.com.tw>

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

English <http://english.aopen.com.tw/tech/default.htm>

Japanese <http://www.aopen.co.jp/tech/default.htm>

Chinese <http://www.aopen.com.tw/tech/default.htm>

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

Simplified Chinese <http://www.aopen.com.cn/tech/default.htm>

