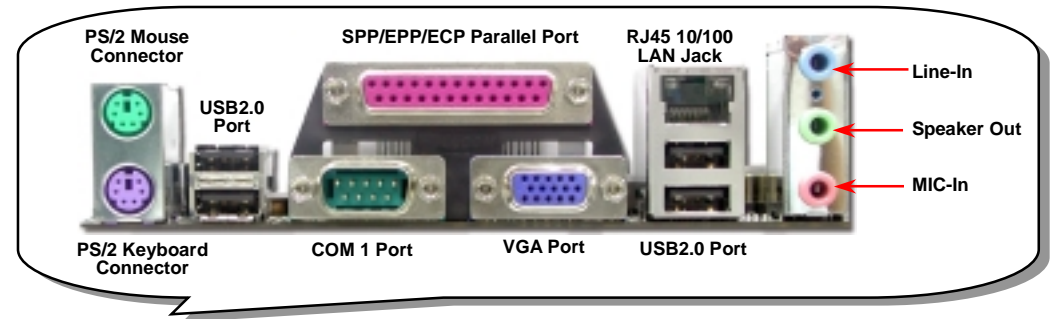


# MX46LS-V

# MX46LS-533V

# Easy Installation Guide



JP28 USB KB/Mouse Wake Up Select Jumper

Realtek Ethernet PHY

CD-IN Connector

S/PDIF Connector

Front Audio Connector

AC'97 CODEC

MODEM-IN Connector

CNR Slot

32-bit PCI Expansion Slot x3

WOL Connector

3<sup>rd</sup> USB2.0 Connector

Case Open Connector

JP14 CMOS Clear Jumper

IrDA Connector

SYSFAN2 Connector

Front Panel Connector

ATA100/133 IDE Connector (IDE1)

Resettable Fuse

SYSFAN3 Connector

4-pin 12V. ATX Power Connector

Low ESR Capacitors

AGP 4x Expansion Slot

478-pin CPU socket (Willamette/ Northwood) with Voltage and Frequency Auto-detection that supports Intel® Pentium® 4 1.4~2.8GHz+ CPU

CPUFAN1 Connector

SIS 650GX/962L Chipset (MX46LS-V)  
SIS 651/962L Chipset (MX46LS-533V)  
168-pin SIMMx2 supports PC100/133 SDRAM maximum up to 1GB

ATX Power Connector

2Mb Flash ROM BIOS

FDD Connector

ITE IT8705F

ATA100/133 IDE Connector (IDE2)

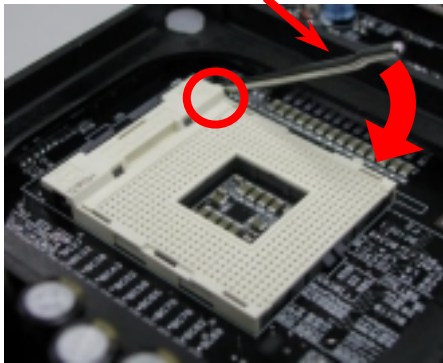




### 3. Installing Processor

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

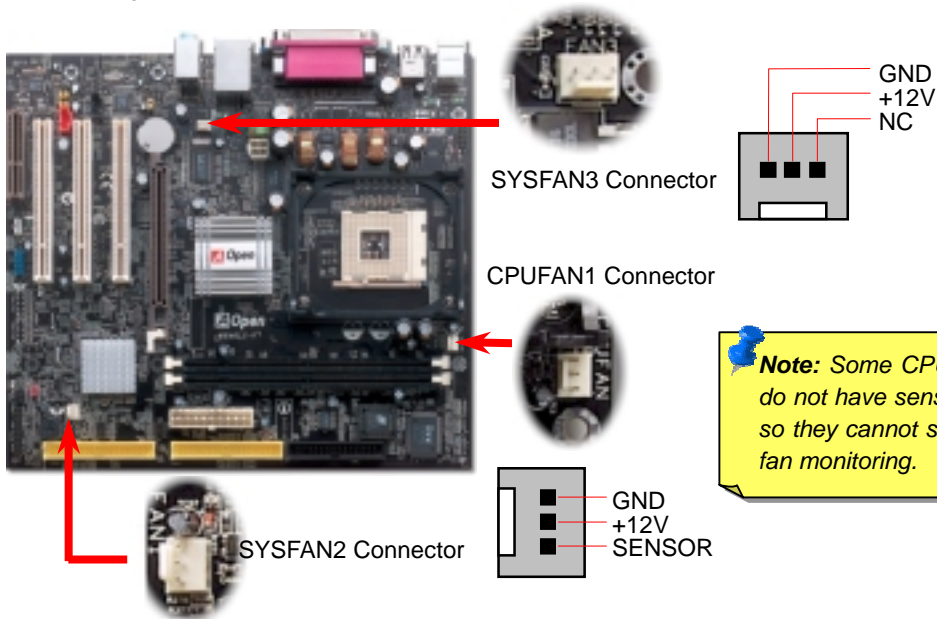


1. Pull up the CPU socket lever and up to 90-degree angle.
2. Locate Pin 1 in the socket and look for a (golden) cut edge on the CPU upper interface. Match Pin 1 and cut edge. Then insert the CPU into the socket.
3. Press down the CPU socket lever and finish CPU installation.

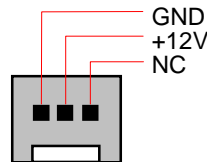
**Note:** If you do not match the CPU socket Pin 1 and CPU cut edge well, you may damage the CPU.

### 4. Installing CPU & System Fans

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

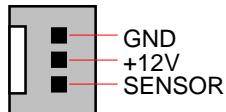


SYSFAN3 Connector



CPUFAN1 Connector

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



SYSFAN2 Connector

### 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	8x, 10x... 21x, 22x, 23x, 24x
CPU FSB	100 MHz.

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 2.26G	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

**Warning:** SIS 650GX / 651 support maximum 400MHz system bus and 66MHz AGP clock; higher clock setting may cause serious system damage.

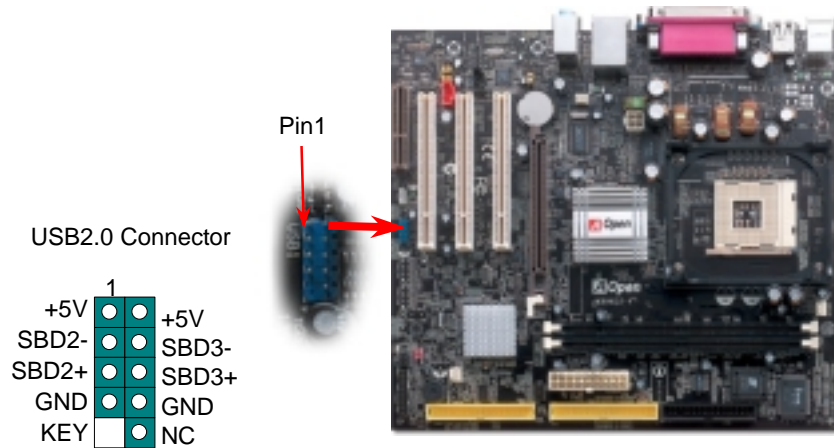
**Note:** Since the latest processor, Northwood, would detect the clock ratio automatically, you may not be able to adjust the clock ratio in BIOS manually.

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
Celeron 1.7G	1700MHz	100MHz	400MHz	17x
Celeron 1.8G	1800MHz	100MHz	400MHz	18x

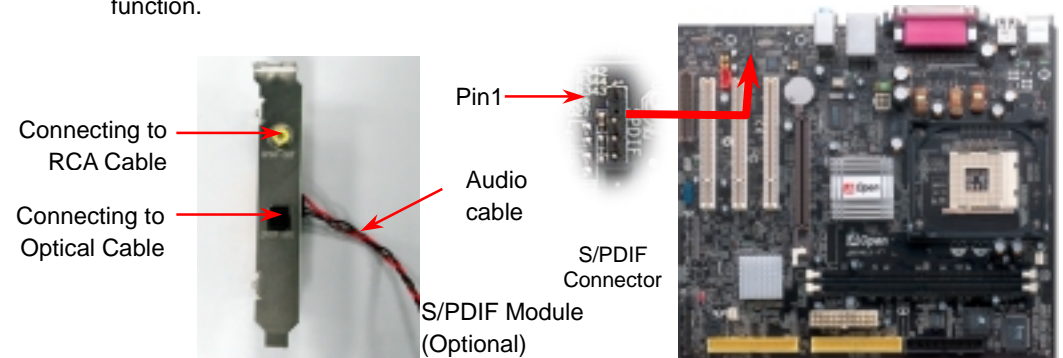
## 6. Support the 3<sup>rd</sup> USB2.0 Channel

This motherboard provides four [USB](#) connectors to link 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.

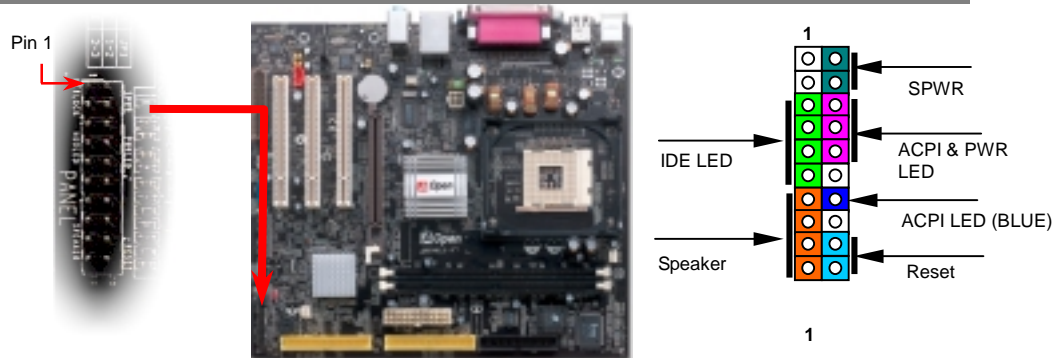


## 8. S/PDIF Connector

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.

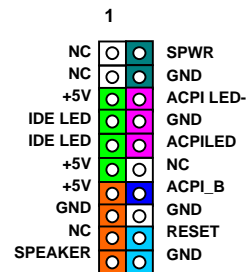


## 7. Connecting Front Panel Cable



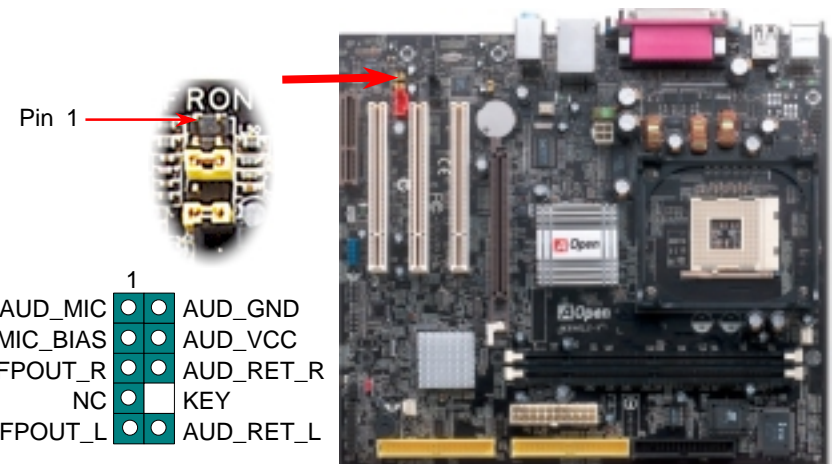
Attach the power LED, speaker, and reset switch connectors to the corresponding pins. If you enable "Suspend Mode" item in BIOS Setup, the ACPI & Power LED will keep flashing while the system is in suspend mode.

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**.



## 9. Front Audio Connector

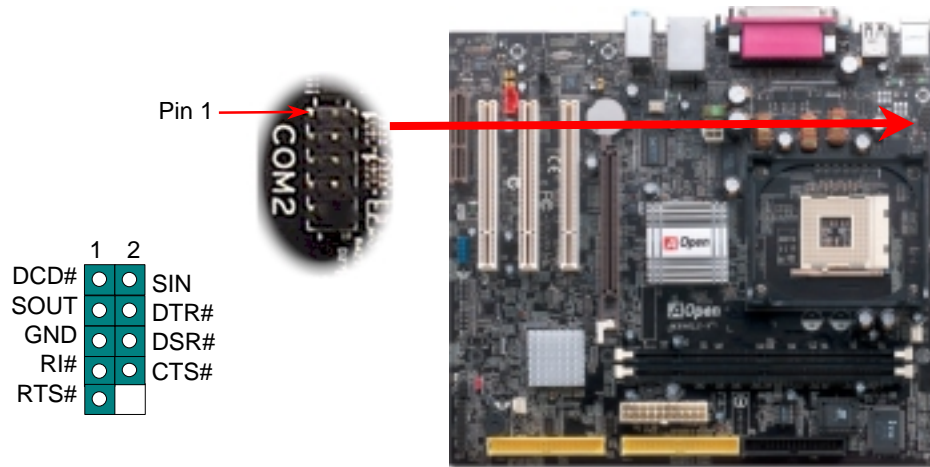
If the housing has been designed with an audio port on the front panel, you'll be able to connect onboard audio to front panel through this connector. By the way, please remove the jumper cap from the Front Audio Connector before you connect the cable. Do not remove this yellow jumper cap if your housing doesn't have an audio port on the front panel.





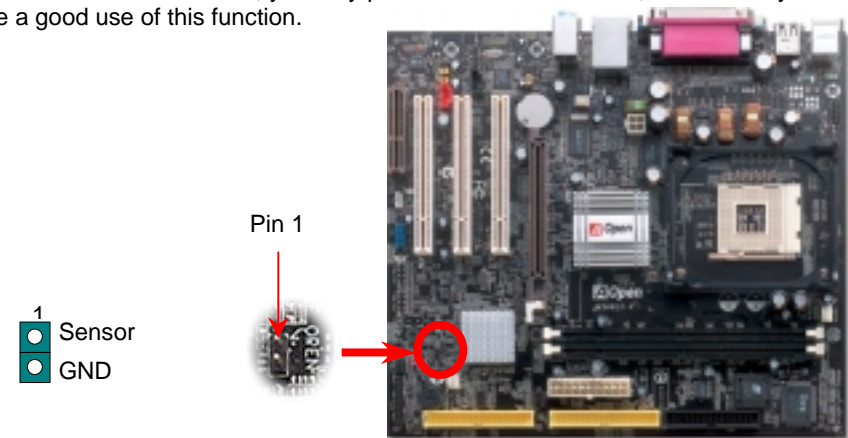
## 10. COM2 Connector

This motherboard provides two serial ports. One of them are on back panel connector, the other is located as shown below. With proper cable, you can connect it to the back panel of chassis.



## 12. Case Open Connector

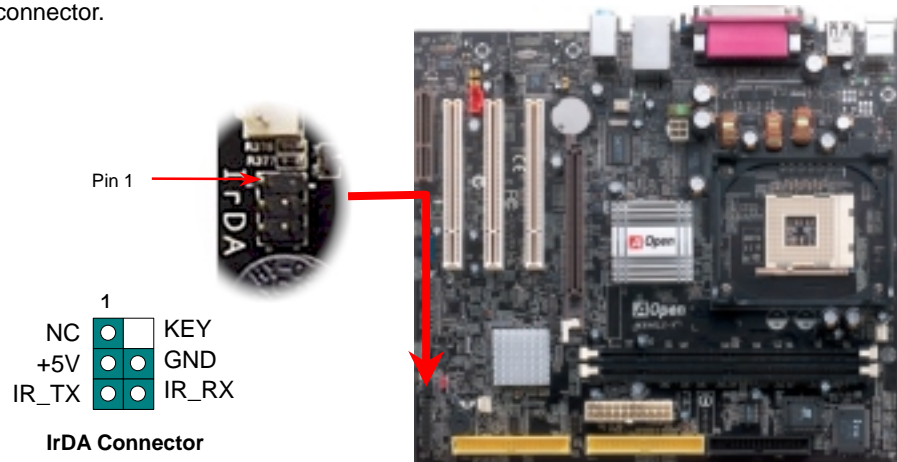
The "CASE OPEN" header provides chassis intrusion-monitoring function. To make this function works, you have to enable it in the system BIOS, connect this header to a sensor somewhere on the chassis. So, whenever the sensor is triggered by lights or by the opening of the chassis, the system will beep 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.



## 11. IrDA Connector

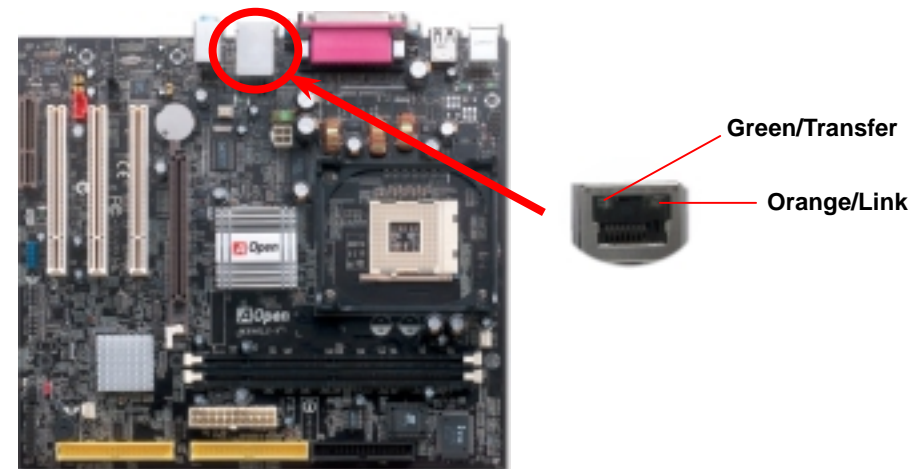
The IrDA connector can be configured to support wireless infrared module, with this module and application software such as Laplink or Windows 95 Direct Cable Connection, the user can transfer files to or from laptops, notebooks, PDA devices and printers. This connector supports HPSIR (115.2Kbps, 2 meters)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



## 13. Support 10/100 Mbps LAN Onboard

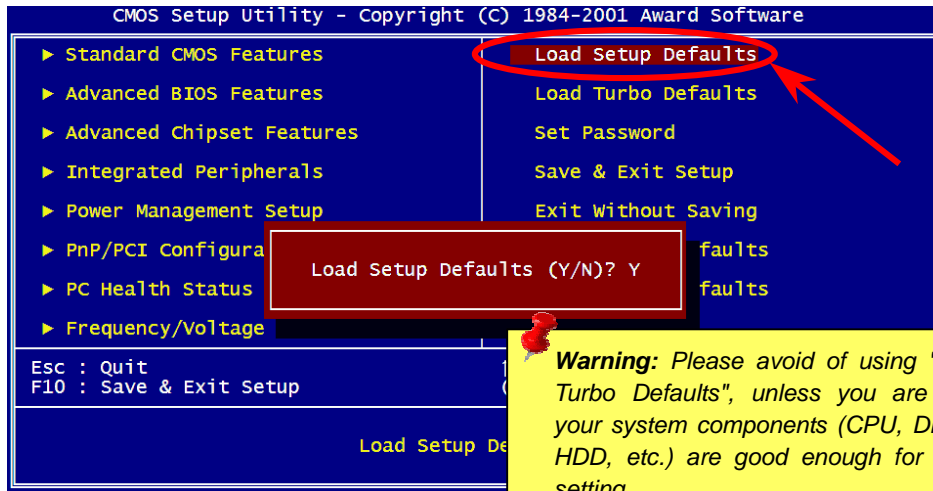
On the strength of integrated SiS LAN controller with Realtek PHY on board, which is a highly-integrated Platform LAN Connect device, it provides 10/100M bps Ethernet for office and home use, the Ethernet RJ45 connector is located on top of USB connectors. The orange LED indicates the link mode, it lights when linking to network 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.



## 14. Power-on and Load BIOS Setup

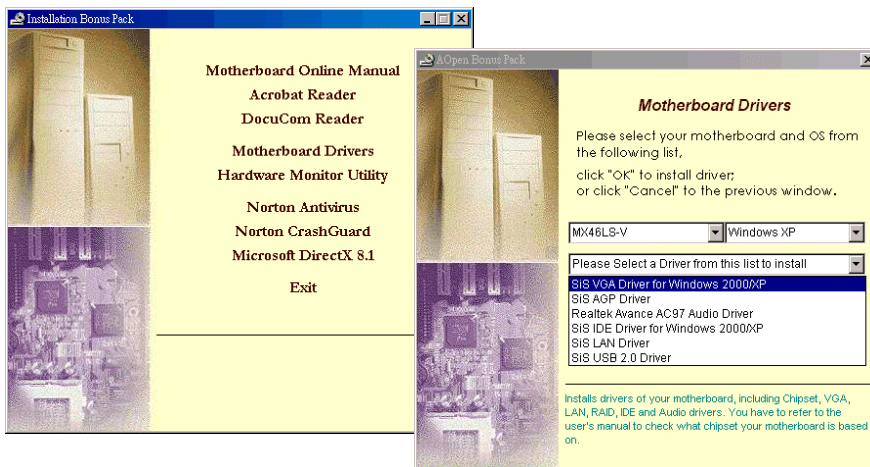
Del

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.



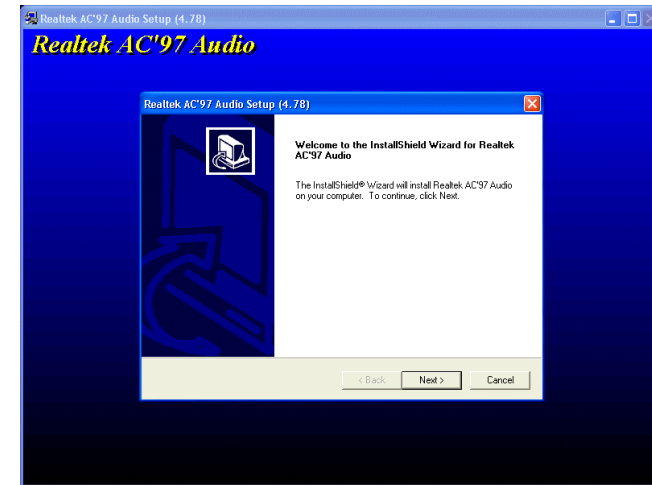
## 15. Bonus Pack CD

You can use the autorun menu of Bonus CD. Choose the utility and driver and select model name. After selecting the model name, you can install its AGP, VGA, IDE, Audio, LAN and USB2.0 drivers from this CD.



## 16. Installing Onboard Sound Driver

This motherboard comes with [AC97 CODEC](#). This audio driver supports Windows 98SE and upper Windows OS; 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.

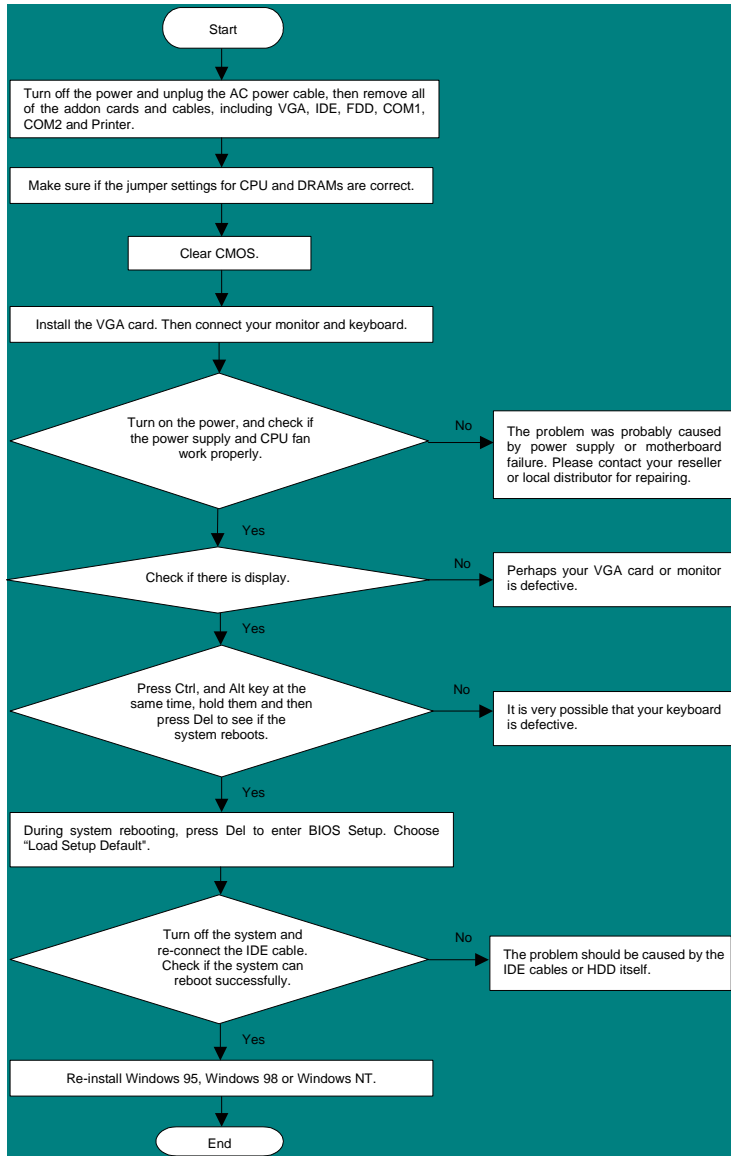
- Download the new version of BIOS package [zip](#) file from our official web site. Unzip the download BIOS package (ex: WMX46LSV102.ZIP) with WinZip (<http://www.winzip.com>) in Windows environment.
- Save the unzipped files into a folder, for example, WMX46LSV102.EXE & WMX46LSV102.BIN.
- Double click on WMX46LSV102.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.
- You may select preferred language in the main menu, then click [Start Flash] to start the BIOS upgrade procedure.
- 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.
- 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.**



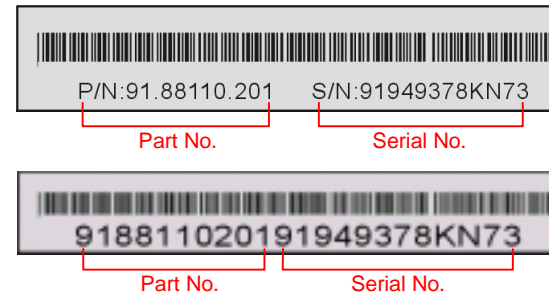
# Troubleshooting

If you encounter any trouble while booting your system, follow the procedures accordingly to resolve the problem.



## Part Number and Serial Number

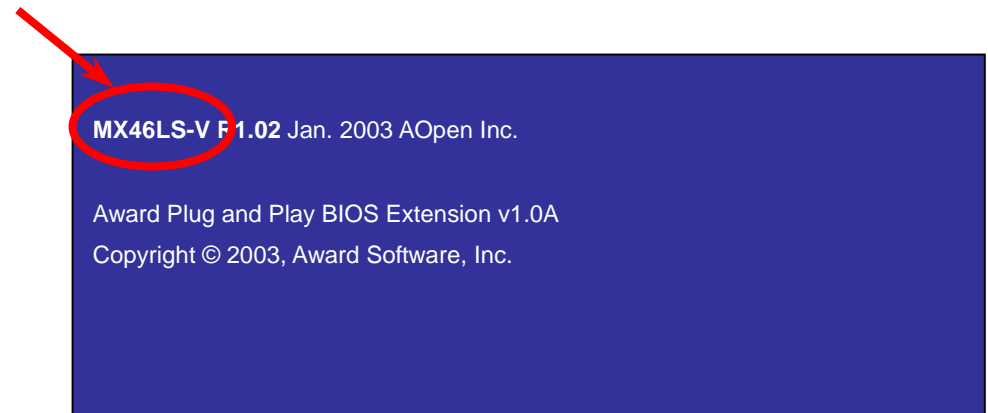
The Part Number and Serial number are printed on bar code label. You can find the bar code label on the outside packing or on component side of PCB. For example:



**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:



**MX46LS-V** 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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America AOpen America Inc. Tel: 1-510-489-8928 Fax: 1-510-489-1998	China 艾爾鵬國際貿易(上海)有限公司 Tel: 86-21-6225-8622 Fax: 86-21-6225-7926
Japan AOpen Japan Inc. Tel: 81-048-290-1800 Fax: 81-048-290-1820	Germany AOpen Computer GmbH. Tel: 49-1805-559191 Fax: 49-2102-157799

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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>

1

**Online Manual:** Please check the manual carefully and make sure the jumper settings and installation procedure are correct. You can also find the manual and EIG in AOpen Bonus Pack.

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

2

**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>

3

**FAQ:** Here we list problems that users often encounter and FAQ (Frequently Asked Questions). You may be able to find a solution to your problem.

<http://club.aopen.com.tw/faq/>

4

**Download Software:** Check out this table to get the latest updated BIOS/utility and drivers. In most case, newer versions of drivers and BIOS have solved earlier bugs or compatibility problems.

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

5

**eForum:** We welcome you to join AOpen eForum to discuss our products with other users. Your problem probably had been discussed before or will be answered by other power users here.

<http://club.aopen.com.tw/forum/>

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.

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.