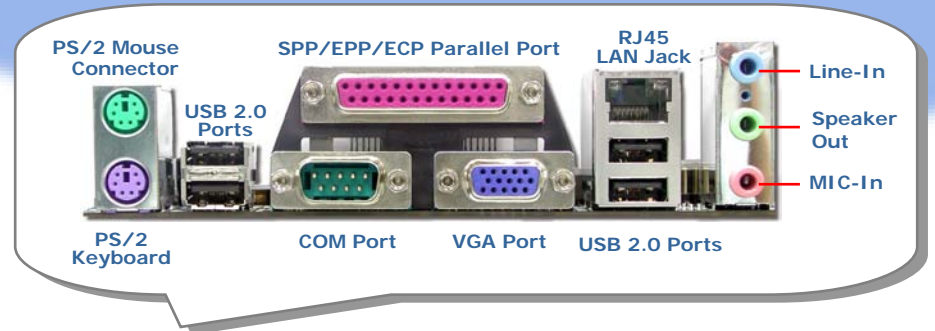
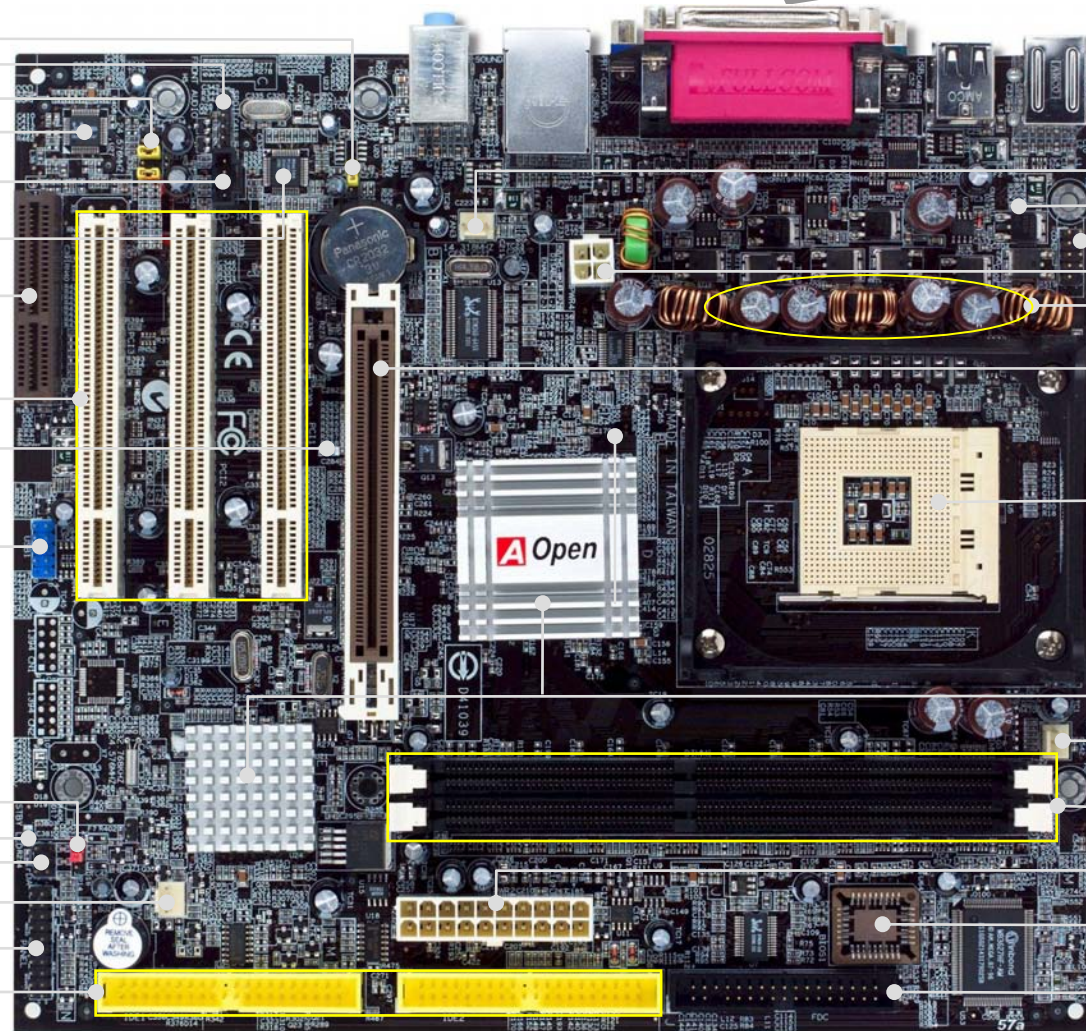


Easy Installation Guide

s651m



- JP28 PS2 KB/Mouse Wakeup Jumper
- S/PDIF Connector
- Front Audio Connector
- Onboard AC'97 CODEC
- CD-IN Connector
- SIS 10/100Mbps LAN Chip
- CNR Expansion Slot
- 32-bit PCI Expansion Slots x3
- AGP Protection LED
- USB 2.0 Connector
- JP14 CMOS Data Clear Jumper
- STBY LED
- IrDA Connector
- SYSFAN2 Connector
- Front Panel Connector
- IDE Connectors x 2 (ATA33/66/100/133 supported)



- SYSFAN1 Connector
- Resetable Fuse
- COM2 Connector
- 4-pin 12V ATX Power Connector
- Functional Polymer Capacitor
- AGP 4X Expansion Slot that supports 4X AGP card(1056MB/s)
- 478-pin CPU socket with Voltage and Frequency Auto-detection that supports Intel® Pentium® 4 CPU
- SIS® 651/962L Chipsets that support 400/533 MHz FSB, DDR 333/266 and AGP 4X CPUFAN Connector
- 184-pin DIMMsx2 support DDR333/266 Max. To 2GB
- ATX Power Connector
- DieHard BIOS Lite
- FDD Connector







AOpen reserves the right to revise all the specifications and information contained in this document, which are subject to change without notice.



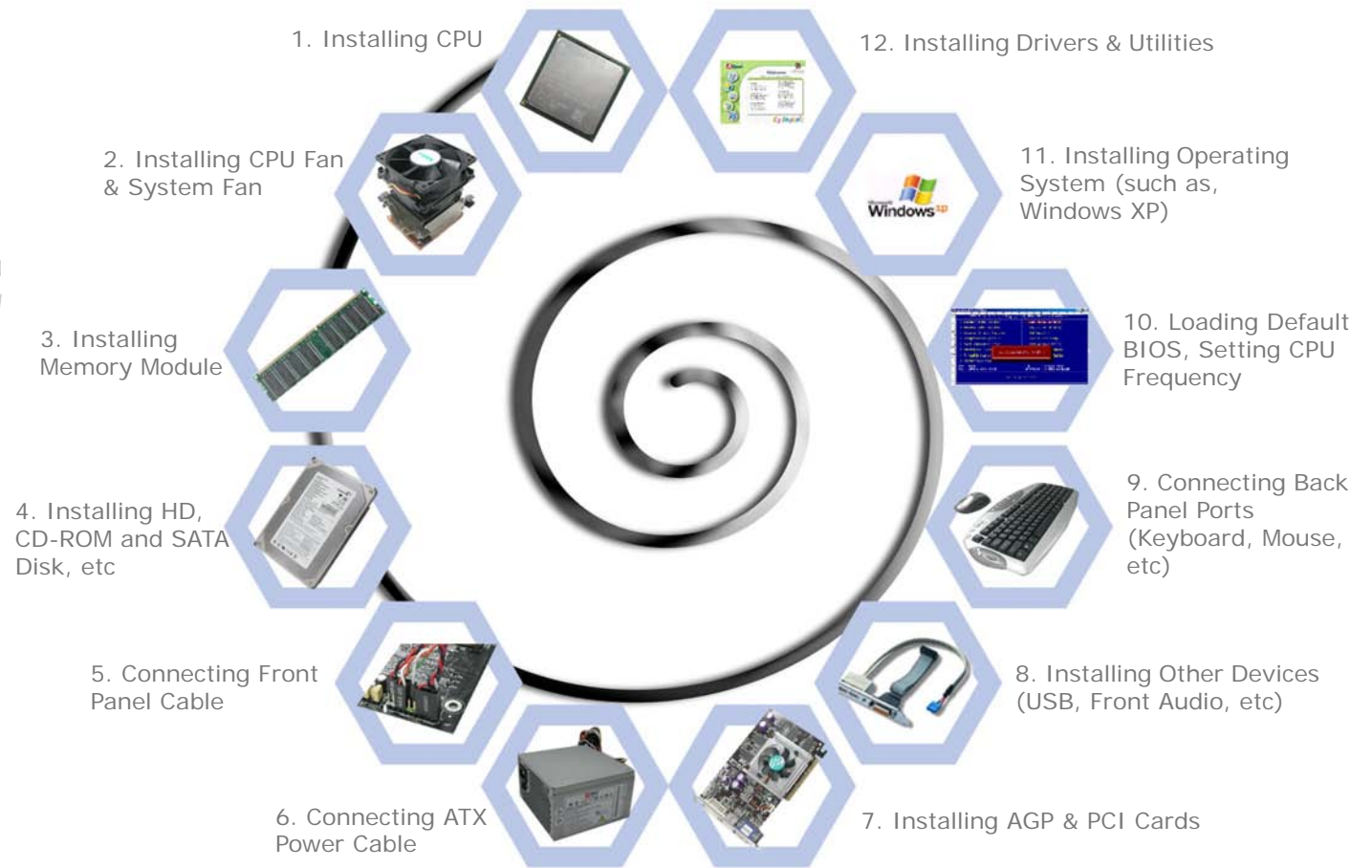
Before You Start

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

-  Easy Installation Guide x 1
-  80-Wire IDE Cable x 1
-  Floppy Drive Cable x 1
-  Bonus Pack CD x 1
-  I/O Shield x 1
-  CPU Retention Module x 1

Installing By Yourself



PART NO: 49.8EM02.EE1

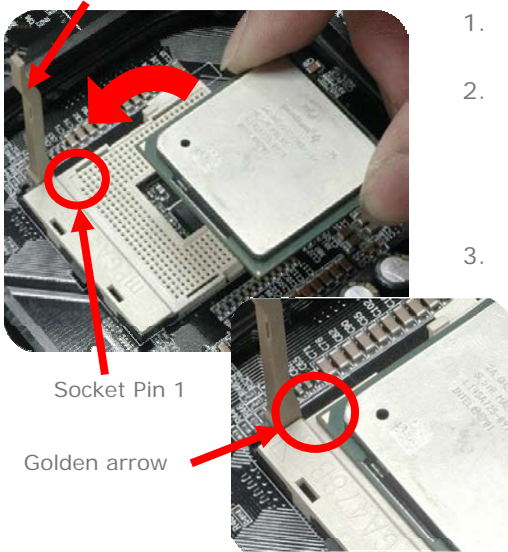
DOC. NO: S651M-EG- E0405A



1. Installing CPU

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

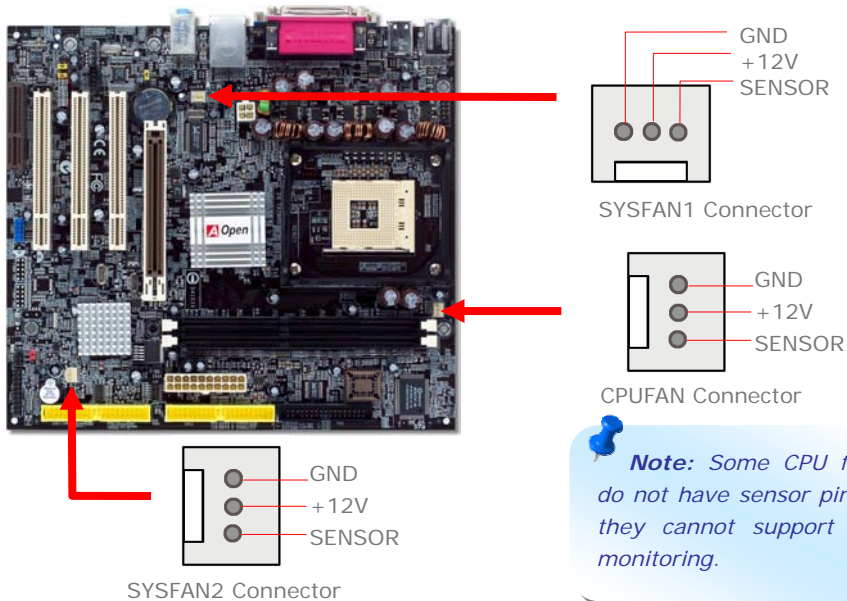


1. Pull up the CPU socket lever and up to 90-degree angle.
2. Locate Pin 1 in the socket and look for a golden arrow on the CPU upper interface. Match Pin 1 and golden arrow. Then insert the CPU into the socket.
3. Press down the CPU socket lever to finish CPU installation.

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

2. Installing CPU & System Fans

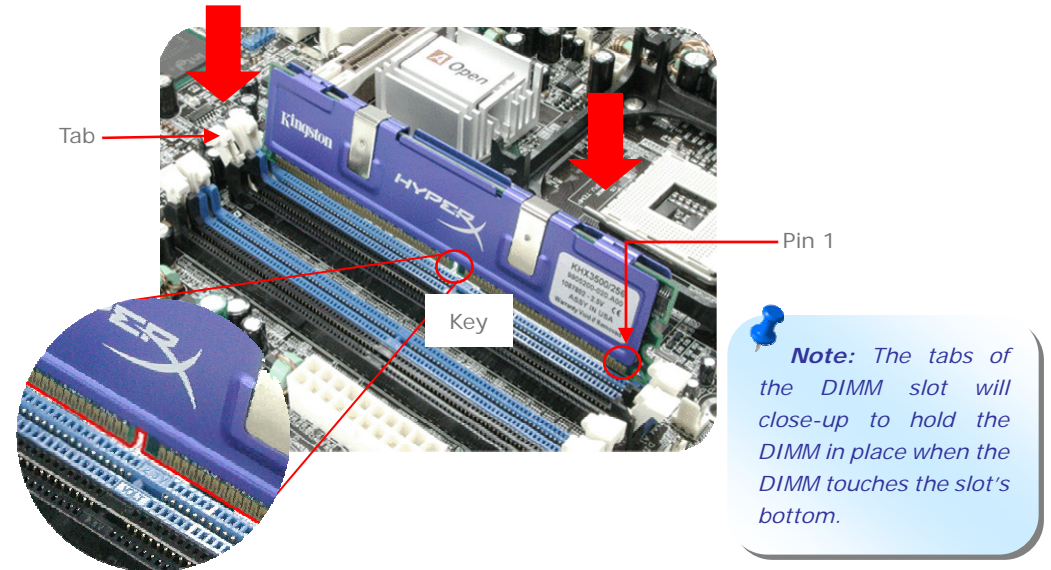
Plug in the CPU fan cable to the 3-pin CPUFAN connector. If you have chassis fan, you can also plug it in SYSFAN1 or SYSFAN2 connector.



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

3. Installing Memory Modules

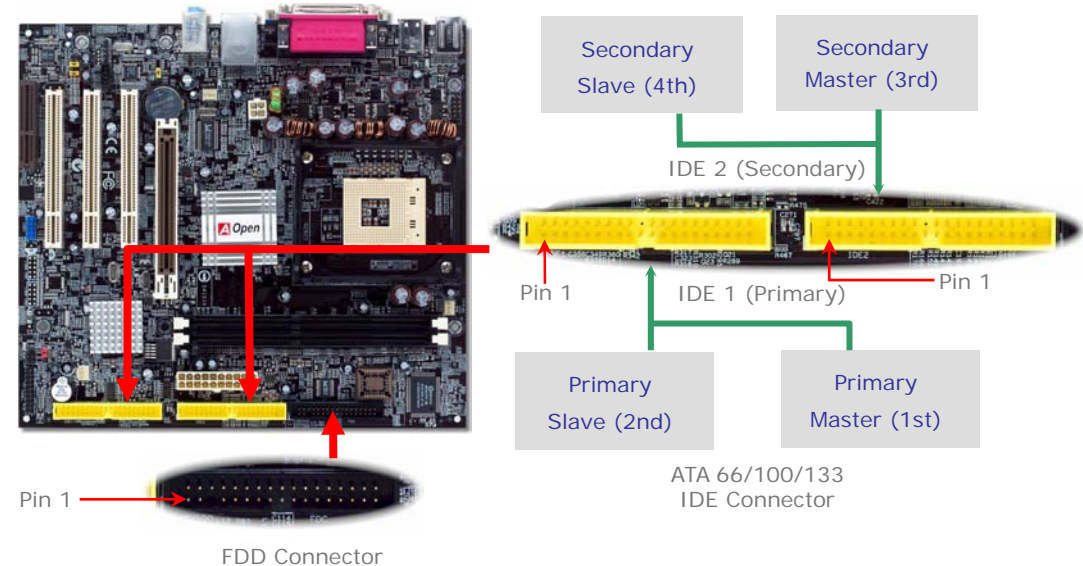
DIMM slots are designed in black which are very easy to recognize. Insert the module straight down to the DIMM slot with both hands and press down firmly until the DIMM module is securely in place.



Note: The tabs of the DIMM slot will close-up to hold the DIMM in place when the DIMM touches the slot's bottom.

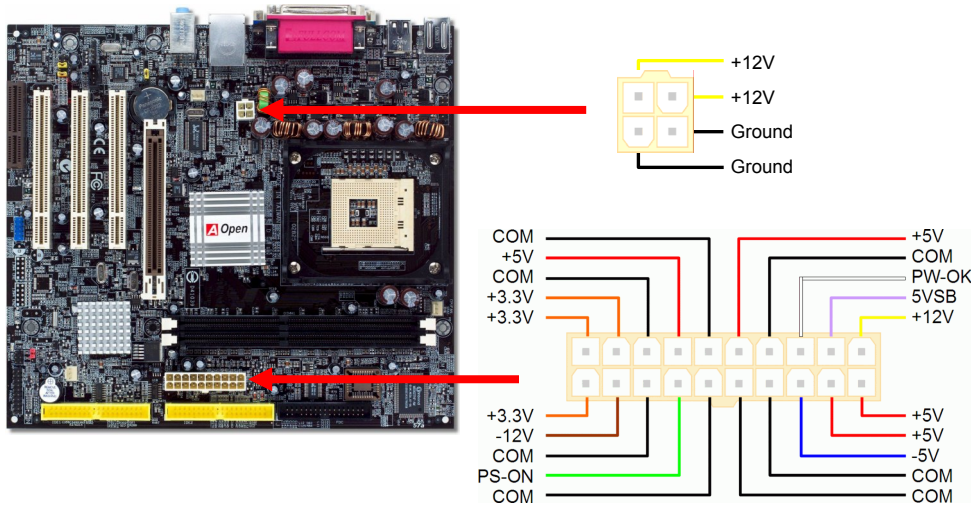
4. Connecting IDE and Floppy Cables

Connect 34-pin floppy cable and 40-pin, 80-wire IDE cable to floppy connector FDD and IDE connector. Be careful of the pin1 orientation. Wrong orientation may cause system damage.



5. Connecting ATX Power Cables

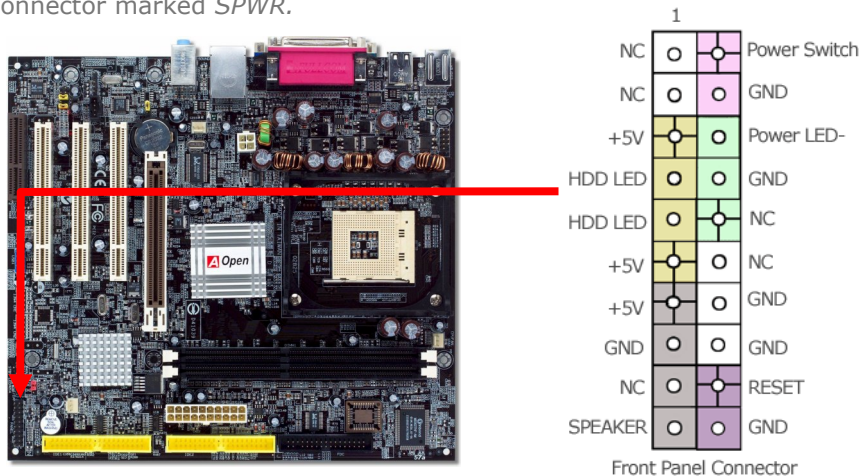
This motherboard comes with a 20-pin and 4-pin ATX power connector as shown below. Make sure you plug in the right direction. We strongly recommend you to insert the 4-pin connector before connecting the 20-pin connector.



6. 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.

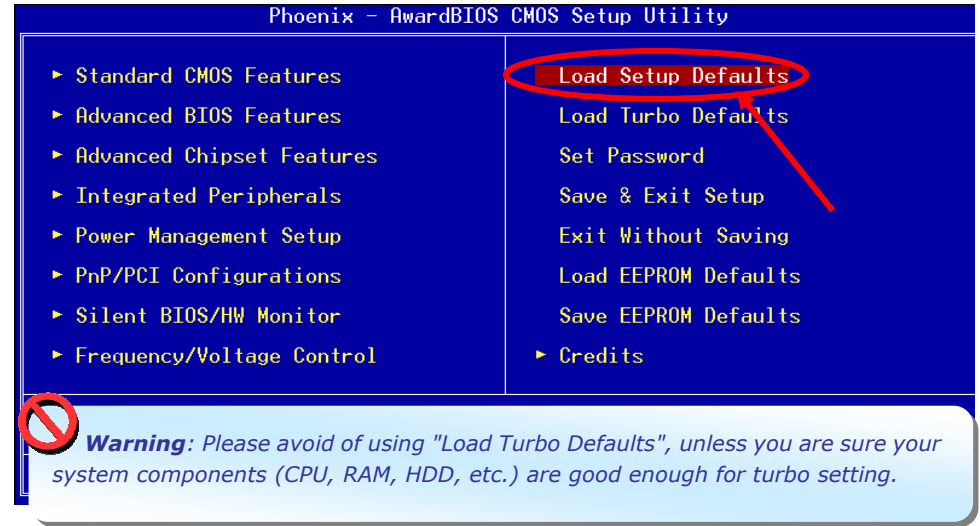
Locate the power switch cable from your ATX housing. It is 2-pin female connector from the housing front panel. Plug this connector to the soft-power switch connector marked *SPWR*.



7. Power-on and Loading BIOS Setup

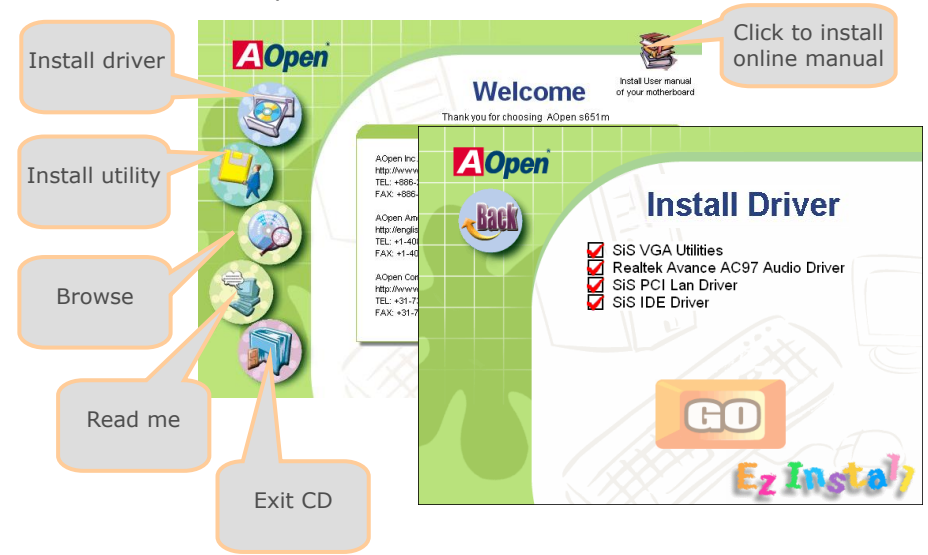
Del

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.



8. AOpen Bonus Pack CD and EzInstall

You can use the autorun menu of Bonus CD disc. Choose the utility and driver from the icons at left side, and then click on the "GO" button to complete installation automatically.



Setting CPU Voltage & Frequency

Setting CPU Core Voltage

This motherboard supports Voltage ID (VID) function to detect CPU voltage automatically during power-on.

Setting CPU Frequency

This motherboard is CPU jumper-less design, you can set CPU frequency through 1MHz stepping CPU Overclocking in the BIOS. CPU Core Frequency = CPU FSB clock x CPU Ratio. However, all CPU now selling in the market belong to "Fixed Multiplier". That means users can not adjust the CPU Ratio but only change CPU FSB clock to achieve overclocking.

(Users do the overclocking at their own risk!!)

BIOS Setup > Frequency / Voltage Control > CPU Speed Setup

CPU Ratio	8x, 10x... 21x, 22x, 23x, 24x
CPU FSB (Adjustment manually)	FSB = 100MHz-248MHz by 1MHz Stepping CPU Overclocking

P4 CPU	CPU Core Freq.	FSB Clock	System Bus	Ratio
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 2.2G	2200MHz	133MHz	533MHz	16x
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	3066MHz	133MHz	533MHz	23x

Note: With CPU speed changing rapidly, there might be faster CPU on the market by the time you received this installation guide. This table is kindly for your references only.

Note: SIS 651 chipset support Intel P4 processor. P4 processor could detect the clock ratio automatically; you may not be able to adjust the clock ratio in BIOS manual.

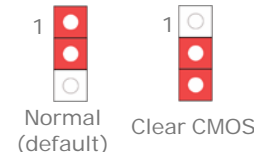
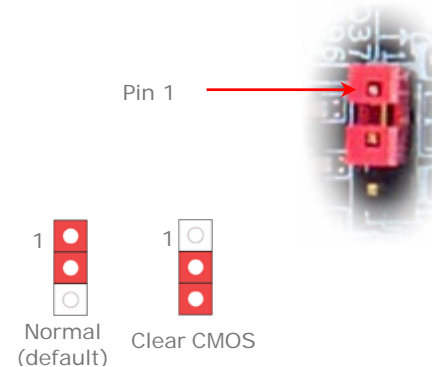
Note: Some CPU fans do not have sensor pin so they cannot support fan monitoring.

Warning: SIS 651 chipset support maximum 533MHz (133MHz*4) system bus and 66MHz AGP clock; higher clock setting may cause serious system damage.

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.

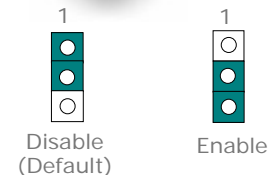
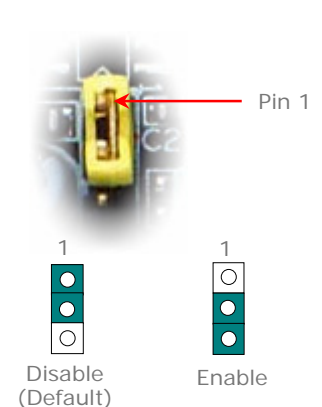
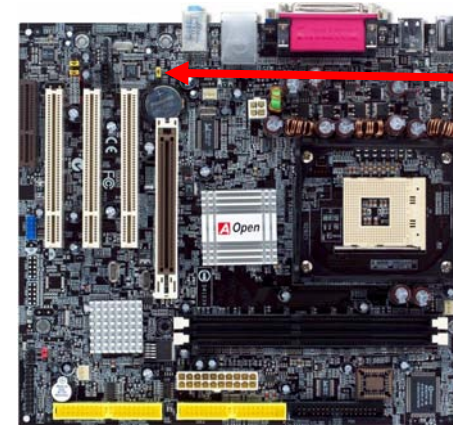


Tip: When should I Clear CMOS?

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

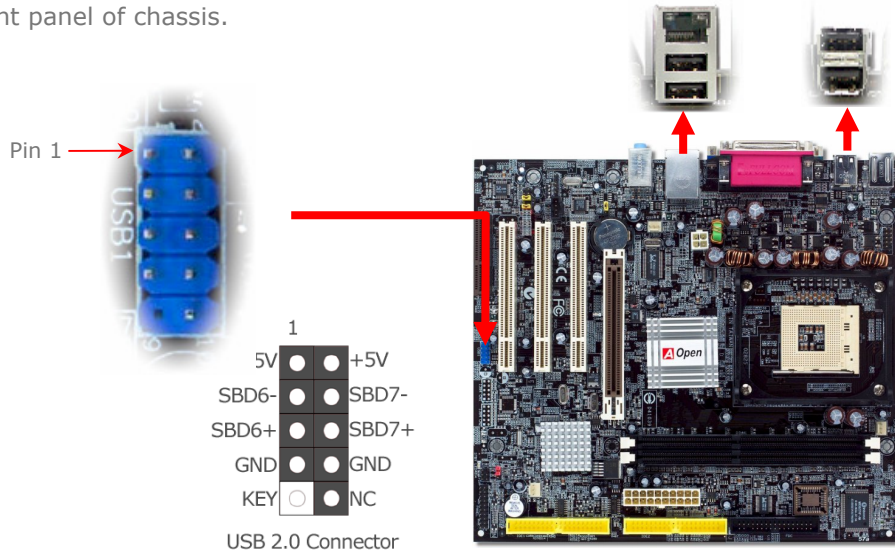
JP28 Keyboard/Mouse Wakeup Jumper

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



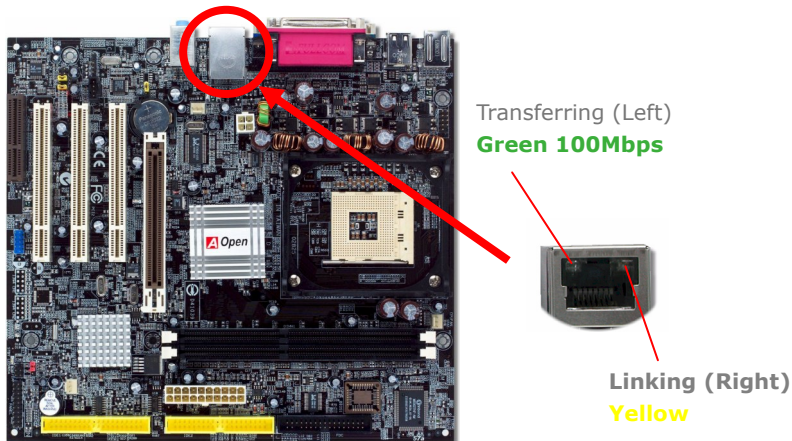
USB 2.0 Connectors

This motherboard provides six USB 2.0 ports to connect USB devices, such as mouse, keyboard, modem, printer, etc. There are four ports on the back panel. You can use proper cables to connect the Front USB connector to USB modules or front panel of chassis.



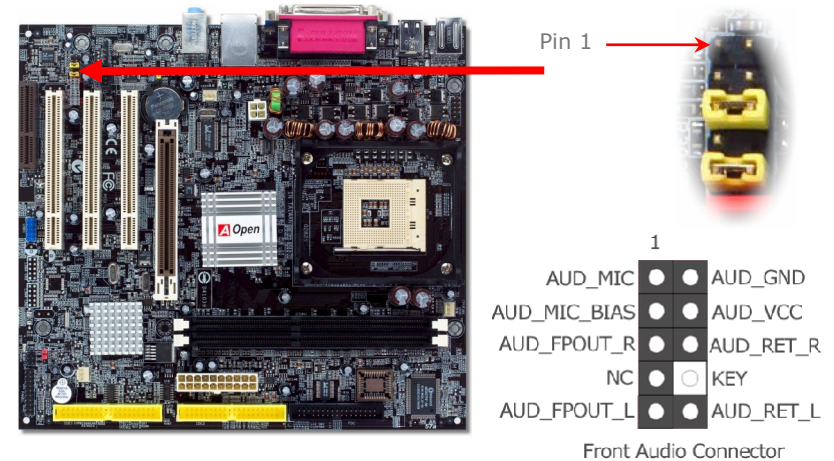
10/100Mbps LAN onboard

On the strength of 10/100Mbps LAN controller on board, this motherboard provides 10/100 Mbps Ethernet for office and home use. The Ethernet RJ45 connector is located on top of USB connectors. The right hand side LED indicates link mode, it lights in yellow whenever linking to network. The left hand side LED indicates the transfer mode and it lights in green when data is transferring in 100Mbps (never lights while in 10Mbps). To enable or disable this function, you may simply adjust it through BIOS.



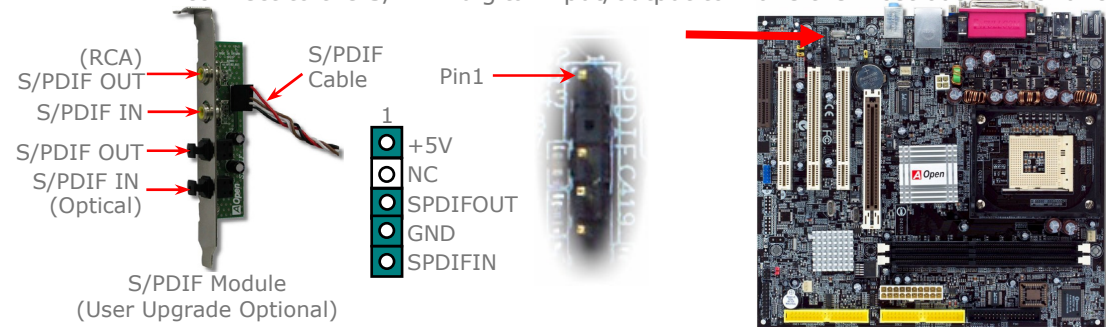
Front Audio Connectors

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.



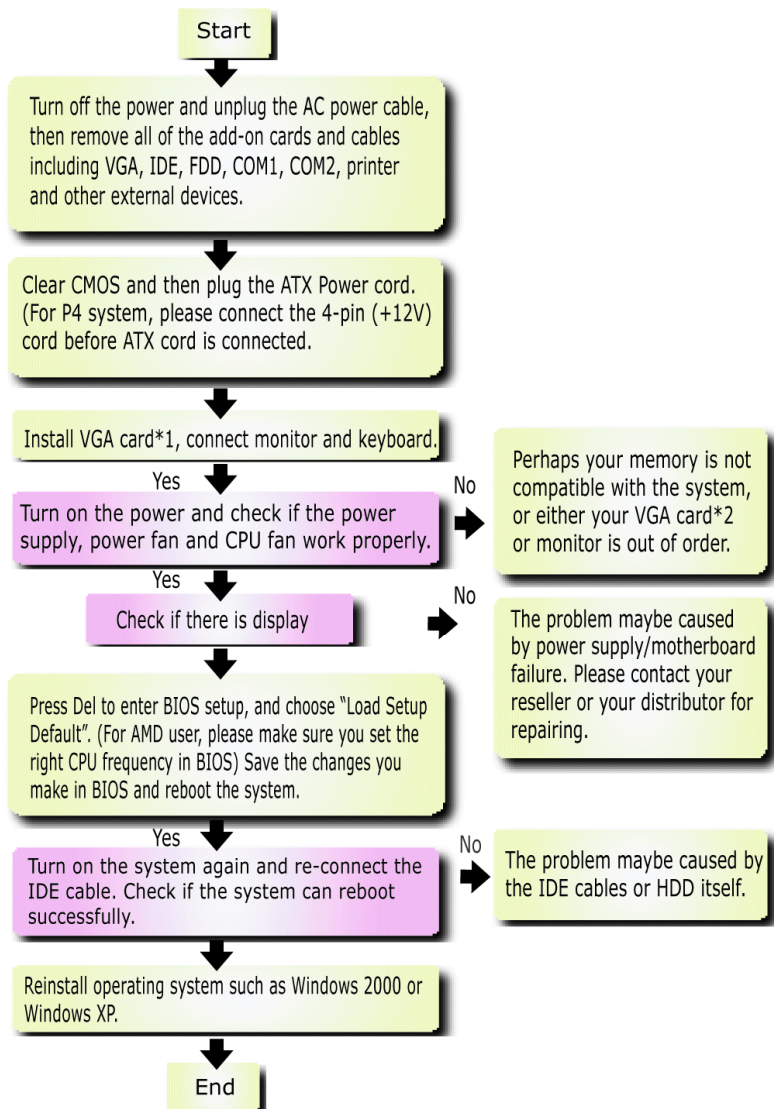
S/PDIF Connectors

S/PDIF (Sony/Philips Digital Interface) is a newest audio transfer file format, which provides impressive audio quality through optical fiber and allows you to enjoy digital audio instead of analog audio. 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. 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. Same as outputs, you can also connect RCA or optical audio products to input connectors on the module and have the voice or music come out from your computer. However, you must have a S/PDIF supported speaker/amplifier/decoder with S/PDIF digital input/output to connect to the S/PDIF digital input/output to make the most out of this function.



Troubleshooting

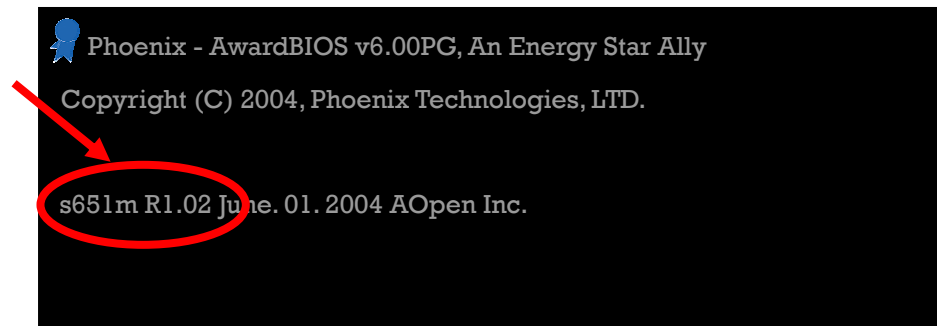
If you encounter any trouble to boot your system, follow the procedures accordingly to resolve the problem.



*1 The VGA card is not necessary to be installed if your monitor is connected to the onboard VGA port.
 *2 If you connect to the onboard VGA port and no screen displays, then your onboard VGA device might have problem.

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:



s651m is model name of motherboard; R1.02 is BIOS version

Register Your Motherboard

Thanks for choosing AOpen product, please register this motherboard at <http://club.aopen.com.tw/productreg/> to become a Gold member of Club AOpen, and to ensure high service quality and priority from AOpen. You will also have a chance to play slot machine game to win prize from AOpen. Please prepare the following information before you start: **Model Name, Part Number (P/N), Serial Number (S/N) and Purchase Date**. 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 component side of PCB. For example:



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

Phoenix-Award BIOS ERROR Message

Beep Sound	Message
1 short(Beep)	System booting is normally.
1 long - 1 short(Beep)	DRAM ERROR
1 long - 2 short(Beep)	Display card or monitor connected error
1 long - 3 short(Beep)	Keyboard Error
Long(Beep) continuous	DRAM hasn't inset correctly.

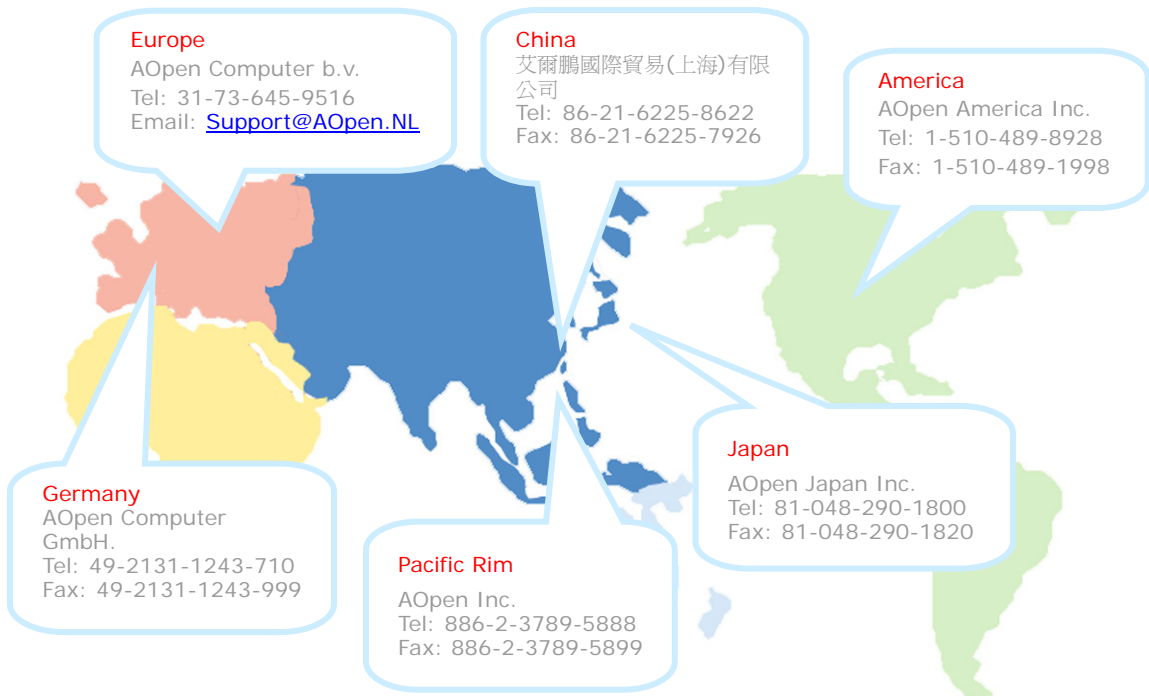


Technical Support

Dear Customer,

Thanks for choosing AOpen products. We invite you to register at <http://www.aopen.com> to become a Gold Member of Club AOpen so as to ensure quality service in the future. In order to maintain the best service to every customer of us, we recommend you to follow the procedures below and seek help from our branches according to the region you buy the product. With your help, we can then continue to provide efficient and the best quality service to every customer.

Thanks very much for your understanding!



Europe	Email: Support@AOpen.NL
Pacific Rim	http://www.aopen.com.tw/tech/default.htm
China:	http://www.aopen.com.cn/tech/default.htm
Germany	http://www.aopencom.de/tech/default.htm
America	http://usa.aopen.com/tech/default.htm
Japan	http://www.aopen.co.jp/tech/default.htm

Online Manual: To download manual, please log on and then select your preferred language. Under "Type" directory, choose "Manuals" to go to our manual database. You can also find the manual and EIG in AOpen Bonus Pack.
<http://download.aopen.com.tw/downloads>

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>

FAQ: Here we list problems that users often encounter and FAQ (Frequently Asked Questions). You may select your preferred language after log on, and may be able to find a solution to your problem.
<http://club.aopen.com.tw/faq/>

Download Software: After log on and having language selected, you may get the latest updated BIOS/utility and drivers you need under "Type" directory. In most case, newer versions of drivers and BIOS have solved earlier bugs or compatibility problems.
<http://download.aopen.com.tw/downloads>

eForum: AOpen eForum is provided to discuss our products with other users, in which your problem probably had been discussed before or will be answered. After log on, you may select your preferred language under "Multi-language".
<http://club.aopen.com.tw/forum>

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.

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.