PEGASOS II

IBM G3/Freescale G4 Processor-based
DDR Mainboard

Pegasos II Instruction Manual, Revision 1.03

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English

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ITEM CHECKLIST

Check all items that came with your PEGASOS mainboard.
The complete package should include:

- One Genesi PEGASOS II mainboard
- One PEGASOS CPU module with a G3 or G4 processor (G4 version includes a fan)
- One ATX backplate
- PEGASOS User Manual

TECHNICAL DETAILS

The Pegasos II is a MicroATX form factor motherboard for PowerPC G3 and G4 processors. The processor sits on its own interchangeable CPU module card which allows for very simple upgrading. The speed of your computer can be upgraded by only changing the CPU card.

For the Pegasos II, Genesi uses the high-performance Marvell Discovery II System Controller featuring an internal bandwidth of 1Gbit per second. DDR RAM (Double Data Rate Random Access Memory) support is provided as well as two on-board ethernet controllers. The first delivers 100 Gigabits per second for high-speed networking and the second offers an additional 100 Megabit per second for standard performance.

Also, three Firewire ports are included (2 external, 1 internal) for connecting high-speed peripherals. There are four USB ports (2 external, 1 internal, 1 on the AGP slot). These allow for the connection of many standard peripherals such as Mouse, Keyboard, Printer, Digital Camera, etc.

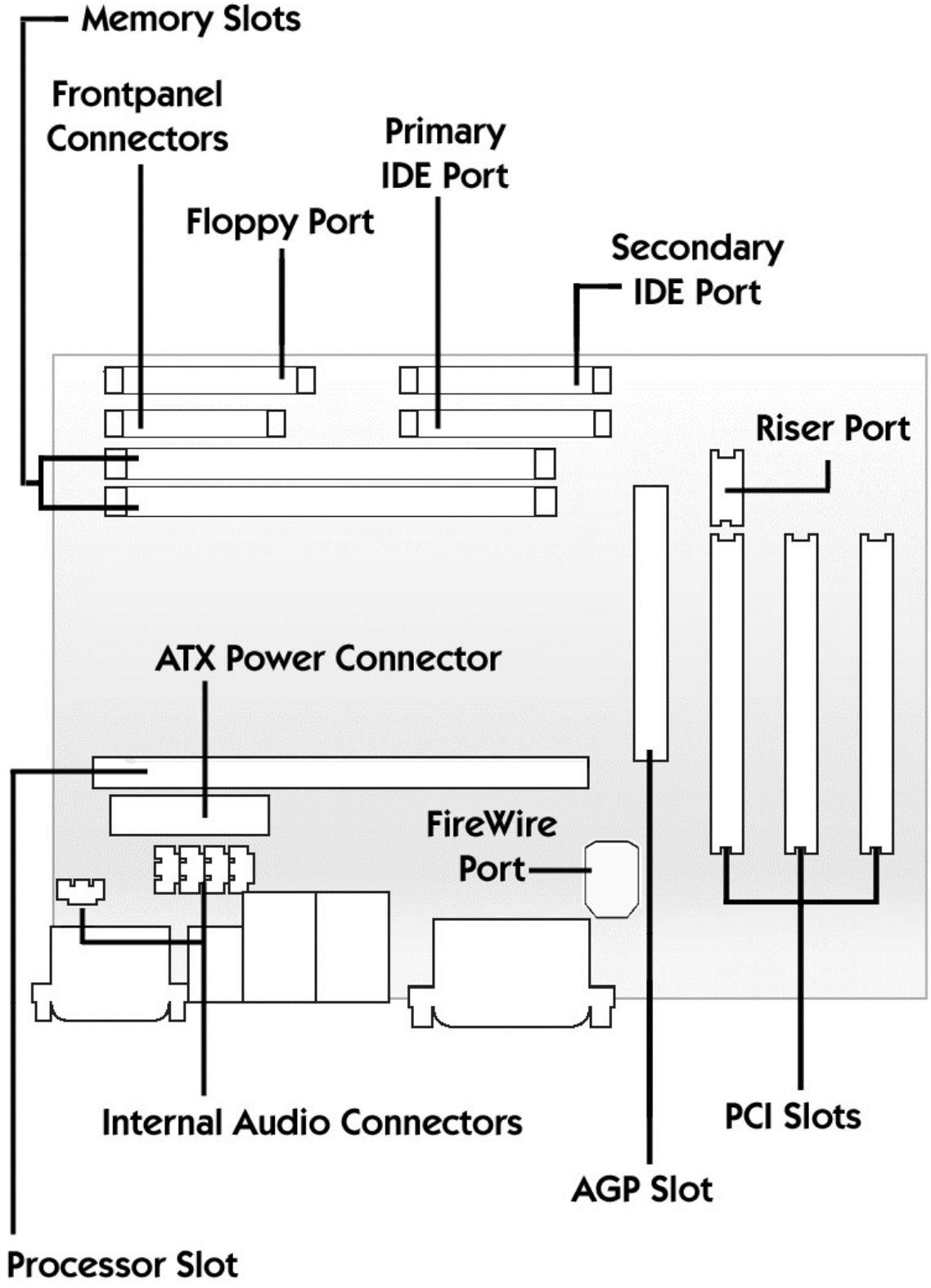
Pegasos II has two dual channel ATA100 connectors for attaching a total of four IDE devices, such as harddisks, CDROM drives, DVD drives, CD/DVD burners, etc.

Standard AC97 Audio is supported providing a variety of CD quality audio ports. Additionally, there is digital audio output via the SPDIF port.

Pegasos II has three PCI expansion slots. One of these can be fitted with a Riser Card. Also, an AGP (1X) slot is provided for graphics cards. The Pegasos board supports the AGP 2.0 standard so most AGP1x and AGP2x cards will work. In order to be sure, check if the voltage of your card is 3.3V. Otherwise, your card will not fit physically.

Pegasos II also supports the following ports: Floppy drive connector, Serial Port, Parallel Port, two PS/2 ports and a Game Port.

BOARD OVERVIEW



HARDWARE INSTALLATION

Precautions: Before installing the mainboard, processor card, memory modules, add-on cards, cables, etc., please make sure to unplug the on-board power connector. If power is still active while installing new hardware, there is a high likelihood of components getting damaged.

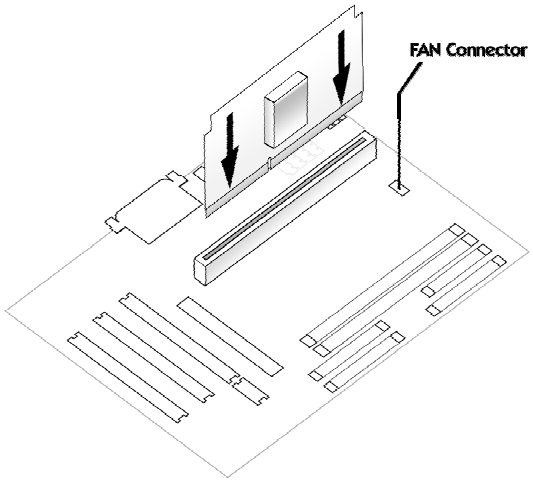
Also, please touch a grounded metal object before you touch any electronic components. This should discharge any static electricity on your clothes or body.

Step-by-Step Installation

Step 1 – Install the Processor Card

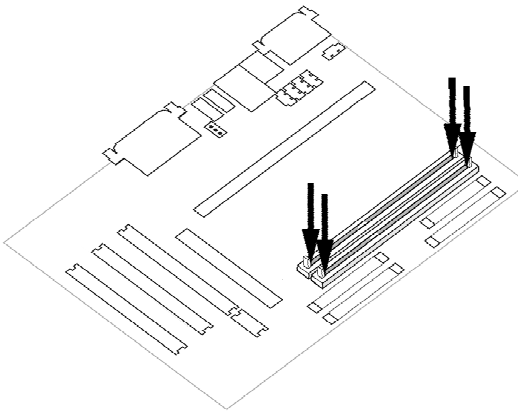
1. Your processor card includes a heat sink. Check if it is fitted correctly and is in full contact with the surface of the processor. The cooler should not be loose, but fit tightly against the processor.

2. Plug the processor card in the processor slot which is in the centre of the motherboard as seen on the illustration on this page. Make sure the processor card is the correct way around, otherwise it will not fit. Set the processor card in its slot and push downwards at both ends. This may need a good push, but do not use excessive force as that can damage the motherboard.



Note: G4 processor cards include a fan. If you own one of these cards, you must connect the fan with the appropiate fan connector on the mainboard as seen on the picture above.

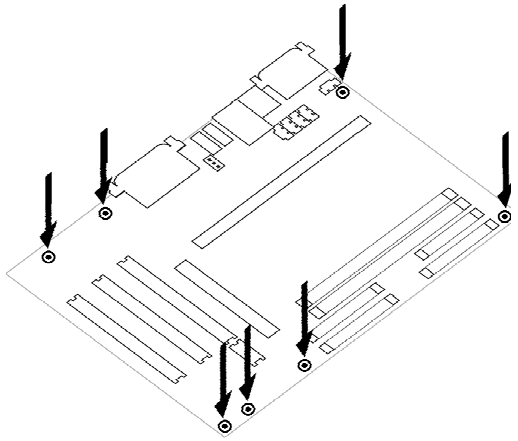
Step 2 – Install DDR RAM System Memory



1. Open the tabs at either end of the memory slot.

2. Insert the memory module into the slot. Please note that memory modules are directional and will not fit into the slot unless properly oriented. After pressing the module down, the tabs at both ends of the memory slot should be locked again. If this only happens at one end, push the other end down so it also clicks into place.

Step 3 – Install Mainboard in a MicroATX or ATX Case



1. Check if the case is on a steady surface or on the floor.

2. The mainboard is mounted in the case via studs (small screws with holes in their back) or spacers (plastic parts). Check which holes in the computer case line up with the holes in the motherboard.

3. Screw the studs or spacers in those holes in the case.

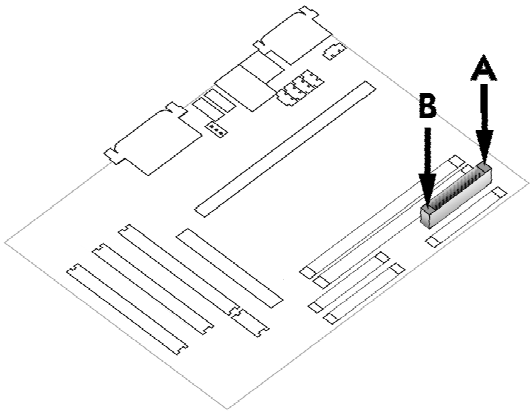
4. Add the mainboard and place it on top of the spacers or studs.

5. Place screws through the holes on the mainboard and into the studs. Then, screw them up.

Note: The mainboard itself must not touch the case. This will cause short circuits and is likely to damage your hardware.

Step 4 – Connect Frontpanel Switches/LEDs/Speaker

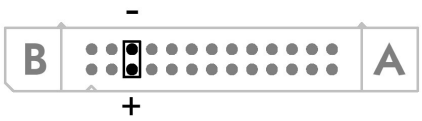
Your computer case has small LED lights which shine when your computer is powered on or data on your harddisk is accessed. Moreover, it features buttons to switch on or reset your computer. In order to make these things work as expected, you have to connect various cables found in your case to a header on your mainboard.



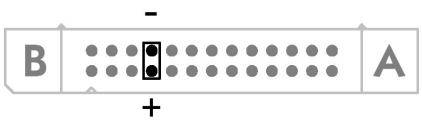
1. ATX Soft Power On/Off (PWR PT)

2. Hardware Reset Switch (RST)

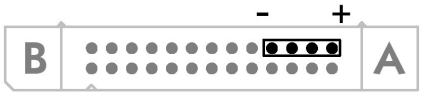
3. Power LED (PLED)



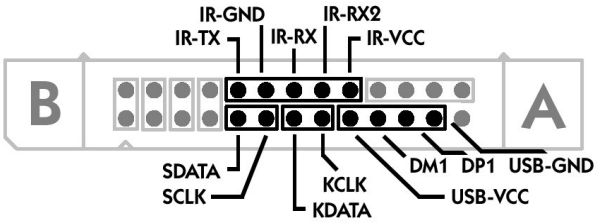
4. Harddisk LED (HLED)



5. PC Speaker (SPEAK)



6. Other Connectors (Optional)

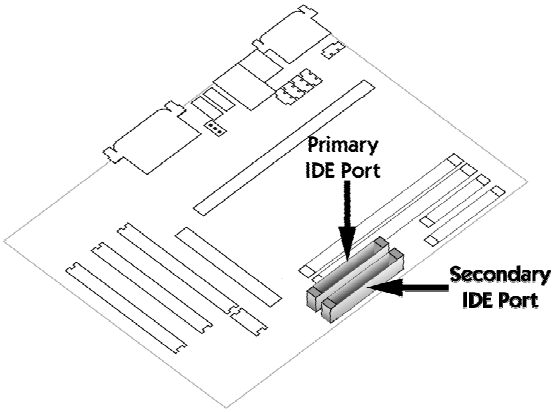


IR : Infrared Connector
USB : Third USB Connector
S*: Infrared Connector
K*: Keyboard

Step 5 – Install Internal Peripherals (IDE Devices)

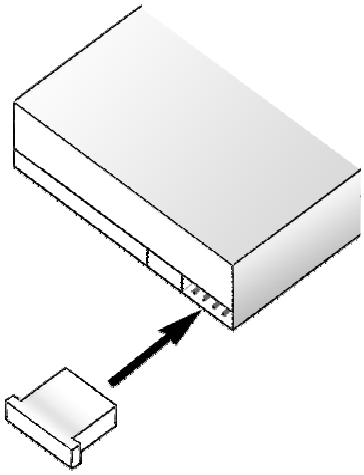
1. Set the required jumpers of all IDE devices according to the instructions by the manufacturer. (Harddisk and CDROM/DVD drives have to be set to Master and Slave modes if you want to connect more than one IDE device with the same IDE connector on the mainboard. If there are two Masters or two Slaves on one cable, they will not function.)

2. Put your IDE devices (harddisks, CDROM/DVD drives, etc.) into the system case.



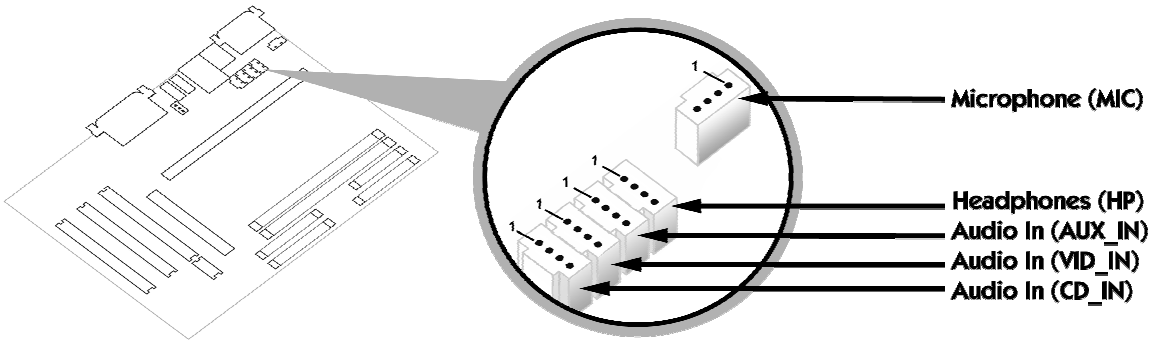
3. Connect an IDE cable on the back-panel of each IDE device to the corresponding headers on the mainboard. Close the tabs to secure the connector. Please note that IDE cables are directional and cannot fit correctly unless properly oriented.

Important: You need to use ATA-100 (IDE100) or better cables for your IDE devices. Old 40 wire cables will not work.



4. Connect an available power cable to the backplate of each peripheral device. Please note that the power cable is directional and will not fit unless properly oriented.

Step 6 – Connect Other Internal Peripherals (Optional)

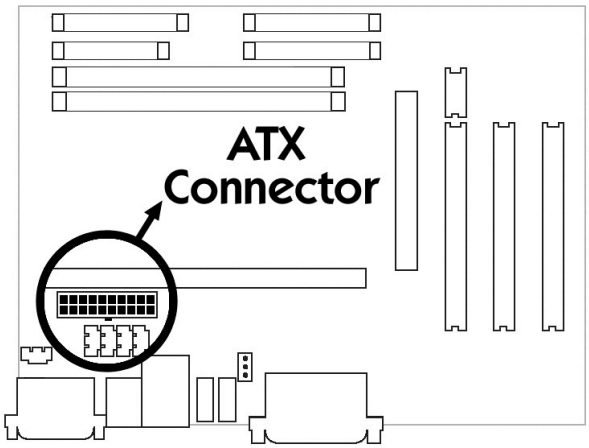


Step 7 – Connect Power Supply

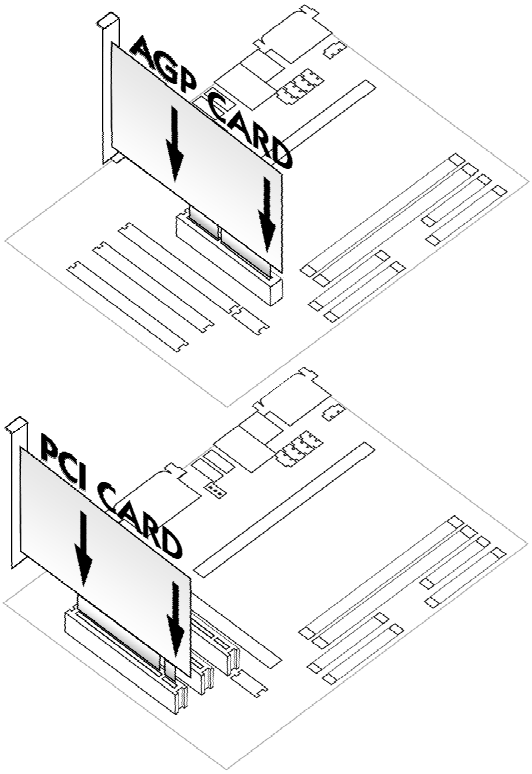
1. Make sure that the Power Supply Unit is **without electricity**.

2. Check again if the Power Supply Unit is **really** without electricity.

3. Plug the ATX power cable into the ATX connector on your mainboard.



Step 8 – Install Add-On Cards in Expansion Slots



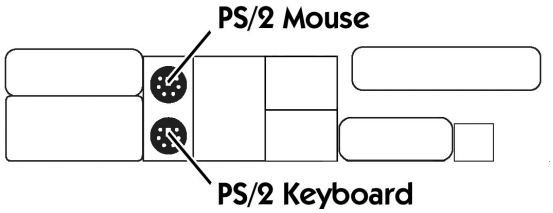
1. AGP and PCI cards plug into their respective slots with the metal plate fitting into a slot at the back of the case. Make sure the card is the correct way around, otherwise it shall not fit. Make sure the card is in the right slot, the AGP slot is for graphics cards.

2. Set the card in its slot and push downwards. It may need a pretty good push, but do not use excessive force as that can damage the motherboard.

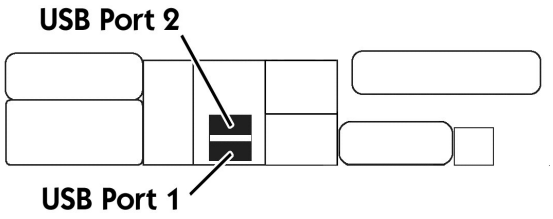
Note: Check if the voltage of your AGP card is 3.3V. Otherwise, your card will not fit physically.

Step 9 – Connect External Peripherals to Back-Panel

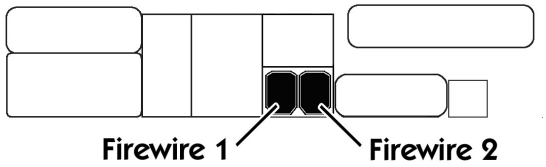
1. PS/2 Mouse and Keyboard



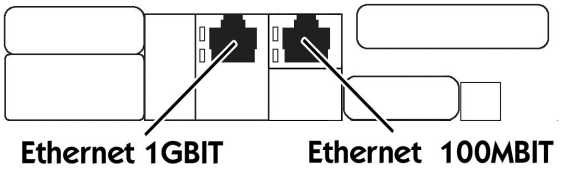
2. USB Ports



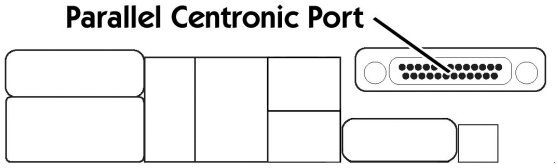
3. Firewire Ports



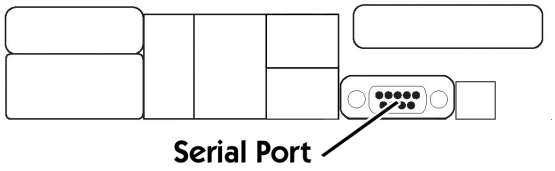
4. Ethernet Ports



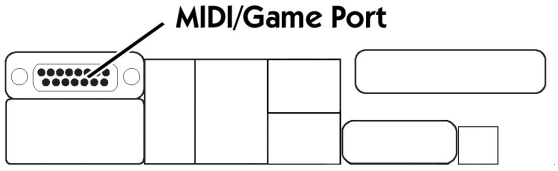
5. Parallel Port



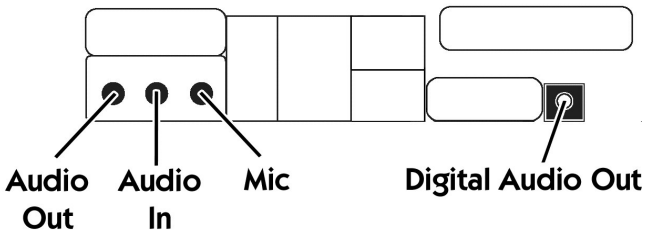
6. Serial Port



7. MIDI/Game Port



8. Audio Ports



Step 10 – Finishing Touches

1. Make sure that the processor card is not loose.
2. Check if all PCI/AGP cards sit correctly in their respective slots.
3. Make sure all memory modules were placed correctly.
4. Check again all cables.
5. Close your computer case.
6. Connect a power cable with the power supply unit.
7. Turn on the system power.