

June 12th 1996

American Megatrends Inc.

Subject : Goliath power requirement / power supply specs

The Goliath motherboard uses a 3.3 volt AT power supply. There are six power connectors on the board. Looking at the board with EISA slots at the bottom and the power connectors at the top, they are in a line from left to right as follows:

1	P5	5 volt extreme left	1,2,3	+5 volt red wire	4,5,6	GND black wire
2	P1	3.3 volt	1,2,3	GND black wire	4,5,6	+3.3 volt brown wire
3	P2	3.3 volt	1,2,3	GND black wire	4,5,6	3.3 volt brown wire
4,5	P3,P4	AT power supply standard				
6	P6	5 volt extreme right	1,2,3	+5 volt red wire	4,5,6	GND black wire

Note :

- The voltages for the pins are printed on the circuit board. When in doubt, refer to the motherboard.
- The 3.3 volt P1,P2 pinout is exactly opposite of the extra 5 volt P5,P6 pinout.
- Either P1 or P2 must be connected for the board to power up .

Power required: AT power supply style 6 pin power connectors are used

+5 volt

For each Pentium Pro processor present, the +5 volt requirement is 8A extra. For quad processors, 32 amperes are required on +5V for the processors. Each EISA PCI board added has its own power requirement, typically 2.5A on +5V. Refer to the board's electrical specifications for this information. Add the power required for all the boards used. Refer to the manufacturer's power specifications for CD ROM, SCSI, and floppy drives etc. The motherboard needs 5 amperes on the +5 volt for board electronics.

+3.3 volt

This board has 3.3 volt logic, and 3.3 volt DRAM memory board. Board requirement is 6 amperes on +3.3V for the logic. Plus DRAM 16Mx72 typically requires 2.2 ampere each, 8 of them at a maximum configuration require $8 \times 2.2 = 17.6$ amperes. Lesser memory might need less. Total 25 amperes .

+12 volt:

Just 0.5 ampere is used up by the board and processor fans. No special requirement. But +12 volt as per AT power supply specs must be present for drives and add-on cards.

Total power: A minimum requirement would be 450 watts power supply, with 50 amperes on +5 volt and 25 amperes on +3.3 volt .

Power pins are rated for 6 Amperes, so at least one each of P5/P6 and P1/P2 would be required, **apart from P3 and P4 which MUST be connected .**

Form Factor: L shape AT supply (8.6" x 5.4" x 5.9" max.), A/C switch CABLE to

front panel . There is no support for remote sense on the motherboard. Power cables should be 24” or longer, outputs length compensated .

Some power supply manufacturers who are working to meet these specifications are:

Company	Model	Phone/Fax Number	Contact
PC Power & Cooling	TurboCool-3.3 T45G	Phone 800-722-6555 Fax 619-931-6988	Larry Aldridge
TTC (distributors for US Power & Technology)	USP&T Model ETA-5500 part# 12-0017-01	Phone 805-388-0039 Fax 805-388-8360	Victor Tricamo
Senstron	Model APA-5400F	Phone 908-417-0411 Fax 908-417-0422	Dr. Sing Hung

Please determine that their power supply meets your particular electrical and mechanical requirements .

Note: P1, P2 names in this document follow the board silk screen. The power supply makers have specific names like P8 and P9 for the AT power standards. Be aware of this when you discuss the connectors required .

This document is a guideline only. Do complete power calculation for your system. *One can always use a separate power supply for the drives alone .*

Redundancy and hot swap are system/customer dependent and not a basic requirement.

Cable lengths specified are general guidelines only. Common 18 inch cables will fall short in a bigger chassis .

L shape power supply is specified to take care of common chassis. Other shapes and sizes can be used as per the customer’s chassis.

Some of the models above have lower +12V ampere rating than traditional 450 watt supplies . Verify that this meets your drives and devices requirement .