

G3/G4 PowerMac Modding

This is a brief run through of the G4 powermac family and a quick discussion of the major pros and cons to selecting members of the family for modding to take PC parts.

Common features between PowerMac G3 and G4 models

Motherboard is door mounted. It can even be operated with the door open and this makes for a super user friendly format when it comes to maintenance and upgrades - everything is easily accessible.

The power supply is mounted in the static part of the body and is of an ATX type (except for the Mirror Drive Door models) in terms of fixings, but the pinout and signals differs significantly from ATX standards so that the Apple PSU is not readily useable in PC conversions. The website www.ATXg4.com gives a huge amount of information about the differences between the G4 power supplies in the G3/G4 range and ATX equivalents.

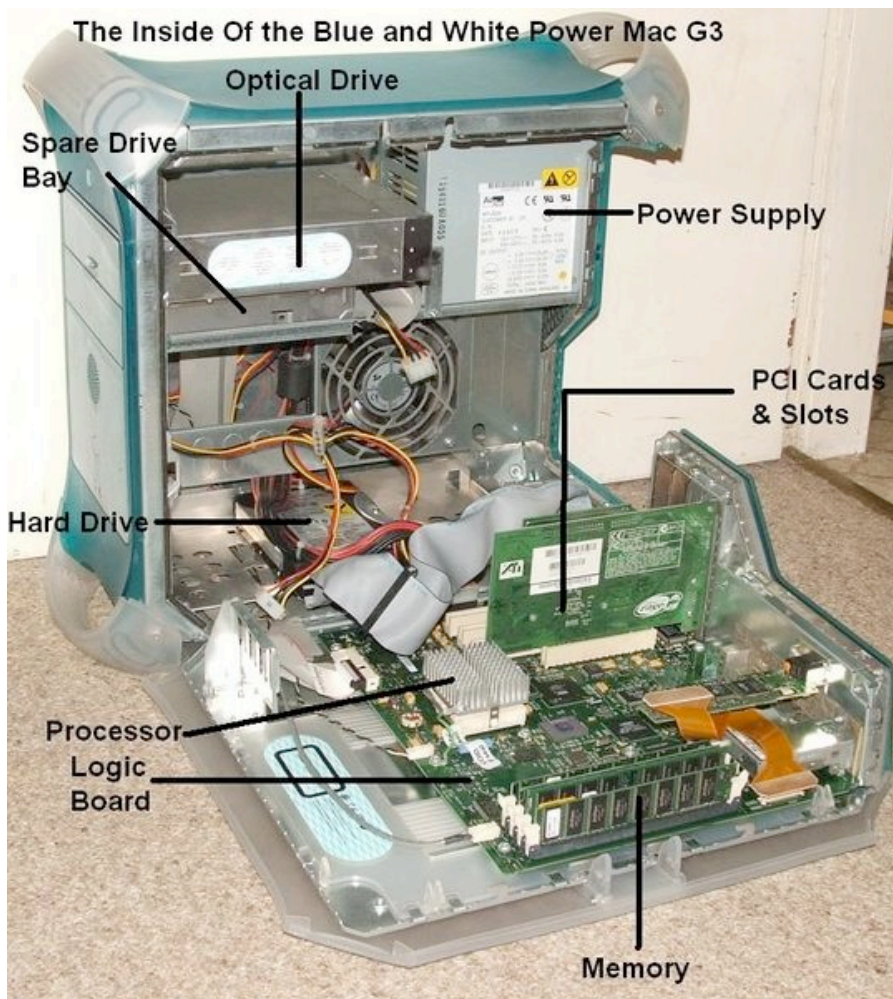
MicroATX and ITX format builds suit these cases better than ATX sized motherboards. Although full ATX conversions have been done to all the cases listed here they usually require large amounts of case surgery and are often compromised by not all PCI-e slots being externally accessible and internal layout being crowded.

With the exception of the Mirror Drive Door model, all these cases can be turned into great looking PC component capable machines with not too much effort and many are now available for very little cash or being given away.

Model Line:

The PowerMac G3





Introduced in 1999 the B&W G3 replaced the old beige tower G3 and was the first of a new look for Apples professional desktop machines.

Features translucent side panels. Blue frontage. 4 slot IO format. Plastic locking latch underneath motherboard keeps door in place.

This set the tone for the PowerMac G4s for a number of generations.

Conversion prospects

Plus

DVD drive is set relatively high in case; Motherboard layout

similar to microATX format. PCI slot arrangement can allow PC conversions that re-use the PCI slots without requiring much if any physical adaptation. For some mobos simply "opening up" the rear IO section may allow a mATX board to be fitted.

Minus/Challenges

"Pillar" in IO section obstructs some ports on mATX format mobos. IO area is entirely proprietary to Apple and will require modification to allow fitment of a normal mATX shield. Some mobo's may require trimming or removal of DVD carrier case. Often the "shelf" area that runs from rear to front of the case under the power supply needs to be cut back to allow a PC motherboard to be fitted. If power supply position is kept as original then cooling options for the CPU are often limited to low profile solutions. Case can be difficult to get a good airflow and therefore may need major surgery if higher powered component builds are envisaged.

The PowerMac G4



The Graphite Models

AGP Graphics

Replaced G3 in 1999
Same basic format as G3, but translucent panels replaced by panels that are internally treated with a grey coating.

Plus

Same as G3

Minus

Same as G3

PCI Graphics

Very similar to AGP graphics model in appearance and layout with basically identical internal and external layout when it comes to case modding.

Plus

Same as G3

Minus

Same as G3

Digital Audio

Debuted in 2001.

Layout similar to preceding models but this time 5 IO slots were provided. Essentially this was similar in layout to the later Quicksilver model that follows.....but retains the familiar front face of the earlier models.

Plus

Similar to earlier G4 models.

Minus

Five slot design can cause extra challenges in getting a clean IO look at the rear.

Power Mac G4 (AGP Graphics)



Power Mac G4 (PCI Graphics)



Power Mac G4 (Digital Audio)



The Quicksilver

Introduced July 2001 featuring a cosmetically new case.

This is perhaps the most user friendly case for transforming to use PC parts.



Plus

Slim internal shelf underneath the power supply and as such does not need to be trimmed back. The DVD drive also sits high in this case and in some instances may not interfere with a replacement micro ATX board. Build quality on these cases is high and the handles and feet have been re-designed for a cleaner look.

Minus

Five slot design can cause extra challenges in getting a clean IO look at the rear.

Mirror Drive Door Model

This member of the PowerMac G4 family is less modded for PC use than others. It's a shame because arguably these are the nicest looking of all the G4s.



However, there are good reasons why this is harder to modify and therefore less often attempted..

If you look at the back panel you notice the PCI slots are on the opposite side to where they are for other G4s and for PCs.

Second, take a look at where the optical drives are placed in relation to the MOBO. You would be very hard pushed to find a mATX board that will fit without crashing into the drives when you try to close the door.

Another thing - that box above the two optical drives - that is the PSU and it is nothing close to being ATX shaped because it is an odd shape only 60mm high at the highest point and it's long and thin and totally non-standard.

The I/O area is nothing like a PC I/O, and everything on that side of the case is squeezed into an external panel area that is pretty much the exact height of a PCI-e card and this closes against a panel that is just 6cm wide. Very challenging indeed to fit a mATX motherboard to.



Which G3/G4 to mod?

Looking at the various models and you'll see that the MDD G4 is a world away in looks and layout to the G3 and the earlier G4s.

Don't choose the MDD to mod unless you want a big challenge (we like challenges though don't we?).

However, look at the Quicksilver and earlier models you see that the backplate looks "sort of" PC friendly with room for an old style ATX supply to be mounted in roughly standard form....so in theory much easier to mod.

Typical things to look for in your mod.

Position of optical drives interfering with RAM etc.

Central IO pillar blocking audio ports

Power switch and LED need converting to work correctly.