

## ANOTHER HARD DRIVE FAILURE

Earlier today one of my hard drives died. It was a fairly old 750 GB "Caviar GP" drive from a Western Digital "My Book" external enclosure. All it does now is emit an impressively loud metallic clicking noise.

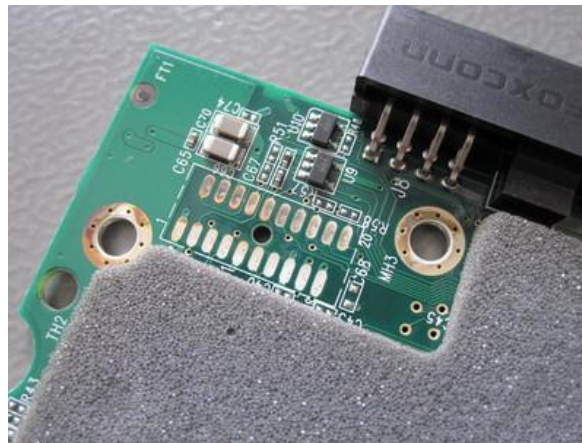
I should have seen this coming, of course. At this point I have a pile of failed drives stashed in a box somewhere. I remember that this particular one has been unusually slow to start and mount for the last couple of times I used it. Also, *smartd* has previously reported "2 Currently unreadable (pending) sectors". Both of which I ignored, because I assumed this was yet another problem with the power supply. I had a "My Book" 12V [external power supply fail](#) before with similar symptoms.

I only used this drive for backups recently, so except for some archival copies of machines I no longer own, probably nothing of value was lost. Having at least a listing of contents before it failed would be nice though.



Of course, I opened it up to see if there's anything obvious wrong with it. The "My Book" USB interface board and the power supply are not the cause, because the drive has the same problem even when it is connected directly to a SATA port. I can hear the platters

spinning and the clicking noise can only be caused by heads trashing around, so those are not stuck either.



The only thing that immediately looks wrong is the unusual amount of corrosion on the hard drive controller PCB. It's bad enough that on some exposed test points both the immersion gold and the copper layer are completely gone. I'm not quite sure what could have caused that. As far as I can remember, this drive was sitting somewhere around my desk for the whole time, so it hasn't been exposed to any hostile environments. It might be a manufacturing defect of some sort - maybe the board was not rinsed well enough after processing.



I cleaned the pads where the motor and the head connect to the circuit board, but that didn't make any difference.

The copper below the green solder mask looks fine though. The bottom side of the PCB contains one large BGA chip. Maybe that one developed some bad connections, if the problem is indeed in the controller board. Just as an experiment, I also tried the disk-in-the-freezer trick, but that did not make the disk behave any differently.

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