

Re: "What if" question

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- *From:* Joerg <notthisjoergsch@xxxxxxxxxxxxxxxxxxxxxxxx>
 - *Date:* Fri, 04 Jan 2008 23:41:13 GMT
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bill.sloman@xxxxxxx wrote:

On Jan 4, 2:07 am, a7yvm109gf...@xxxxxxx wrote:

On Jan 3, 7:59 pm, bill.slo...@xxxxxxx wrote:

On Jan 3, 6:49 pm, a7yvm109gf...@xxxxxxx wrote:

If time travel to the past were possible and I brought a PATA hard drive with me, would the scientists and engineers of 1966 get it to work? Assuming I told them nothing would they figure out the principles behind it? If so, how long would it take? How would they do it?

Modern hard disks depend on "giant magneto-resistance" in the reading head to be able to read the magnetic field of the disk surface. It wasn't discovered until 1988 http://en.wikipedia.org/wiki/Giant_magnetoresistive_effect You'd probably need ion-beam milling to identify the different metallic layers in the reading head that give you the giant magneto-resistance, and that only hit my radar in the late 1980's. At the time it would probably have been an example of the sufficiently advanced technology that was indistinguishable from magic. Doesn't anybody around here know their technology?

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Bill Sloman, Nijmegen

Re: "What if" question

Right, but they could have figured it out eventually. I think.

They might have been able to figure out that the data density on the disk was some four or five orders of magnitude higher than anyone could manage in 1966 – in 1980 my wife dropped a hard disk cartridge that slotted into a hard disk drive the size of a washing machine, and managed to lose all of the data she'd stored in the 10 Mbyte of storage it offered.

I guess they might have figured it out how to get the extra density by 1988 ...

I mean it's electrical, not magical.

It would have looked pretty magical back then.

GMR may be only two decades old, but the old, non-giant MR effect isn't.

I sometimes wonder what would happen if modern dance music were played in a 60s disco.

Especially stuff like euphoric trance with a melodic line that just blows you away. Too much bass probably, destroy the speakers of the time.

Compact disks weren't around in 1966

<http://www.oneoffcd.com/info/historycd.cfm>

and while you could digitise audio and record it on video tape recorders back then, the particular encoding now used wasn't standardised until 1985 (J. Audio. Eng. Soc. volume 33 pages 975–984) so the lucky recipient would have had some trouble recognising audio tracks in the data in the disk.

They had pretty fast tape drives. The real tapes, huge. Of course, to install one of these you had to clear out part of the living room and have the electrician run an extra mains line.

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Regards, Joerg

<http://www.analogconsultants.com/>

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