

Re: Deleting files on Compact Flash Cards

Source:

<http://www.tech-archive.net/Archive/WinXP/microsoft.public.windowsxp.general/2007-10/msg00096.html>

- *From:* "M.I.5¾" <no.one@xxxxxxxxxxxxxxxxxxxxxxxxxxxx>
 - *Date:* Mon, 1 Oct 2007 10:15:51 +0100
-

"Spanky deMonkey" <Spanky@xxxxxxxxxxxx> wrote in message
news:%23nM6bvVAIHA.1208@xxxxxxxxxxxxxxxxxxxxxxxxxxxx

I am running XP SP2 with all the MS updates. I have an internal card reader USB 2.0 enhanced, and when I insert my 8GB card into the reader, I can copy files to the HDD pretty quick.

When it's time to delete off the card, it takes forever. For instance I deleted 127 files (JPEG) and it took 66 seconds. I tried to delete 394 (JPEG) files about 1.5GB and it took 4 minutes, 29 seconds.

Why so long? I thought when files are deleted, the FAT table is erased and the files left alone.

Whilst you are correct in your assumption, you have overlooked the way FLASH memory actually works. As you are probably aware: every time you delete a file, the file directory is updated to show that the file is now deleted and the FAT tables (there are 2 – one is a duplicate of the other) are updated to show that the sectors are now free (FLASH doesn't really use sectors as such, but that is how the FAT filing system works – but FLASH memory is organised into blocks).

The problem arises because it is not possible to alter one or two bits in any block on FLASH memory. The only way that can be achieved is to read the block into a buffer; alter the bits in the buffer; erase the whole block and then write the buffer back to the block. In practice because the memory has limited rewrite capability, the buffer is actually written to the least recently used block (or the next unused block if the memory is fairly new). The memory housekeeping controller keeps track of what is written where. This whole process is handled entirely by the housekeeping circuitry on the memory chips themselves and is entirely transparently to the Windows operating system. This process occurs for each file that is deleted. The FLASH controller was not equipped with a crystal ball and has no means of knowing that the operating system is about to delete another file.

Re: Deleting files on Compact Flash Cards

It should be noted that the architecture of FLASH memory cards from different sources varies and this can affect how the operating system interacts with it. The times you describe for deleting files from an 8Gb memory card do not seem to be excessively long.

If you wish to erase the card completely, it is much quicker to format it.