

Re: Seeking an explanation or theory

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- *From:* Ken <Ken@xxxxxxxxxxx>
 - *Date:* Thu, 04 Jun 2009 14:41:36 -0500
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Sjouke Burry wrote:

Ken wrote:

I was adding some memory (DDR) to a Compaq 6000T computer to send to a friend. This computer is a Celeron 2 GHZ that can accept up to 2 Gig of RAM. The minimum speed is PC2100 and the MB has two slots for memory. It had been running with 512 MB (2x256) and can accept either high density or low density RAM in any combination up to 2 GB.

Now the interesting part: I purchased two sticks of low density PC3200 DDR so that I could put the maximum memory in the computer before sending it out. Upon receiving the RAM I removed the existing RAM and installed both sticks of PC3200 RAM WITHOUT having removed the A/C power cord. Next I ran a memory test on the new memory to make sure no errors occurred. It passed without error and recognized the full 2 GB. Thinking everything was fine, I unplugged the computer from the A/C and worked on something else.

Upon returning to the computer I plugged in the power cord to the A/C and immediately the computer tried to start without having pushed the power start button on the computer front. It did NOT successfully start, but went into an oscillation of the power supply starting and stopping every half second or so. (Pushing the power button during this event had no effect at all.) During this oscillation the power on LED would flash and the power supply fan would start and stop. I unplugged the power cord after a few seconds of this and waited a couple of seconds before plugging it in again. Upon plugging in the cord again, the same thing happened again. It went into a cycle of turning on and off the power.

Wondering what could possibly have gone wrong, I returned the old RAM to the slots in place of the new RAM and plugged in the power cord. It behaved normally, whereas the pushing the power button started the computer. Thinking the larger size RAM might be drawing more current and making the power supply suspect, I installed a 300W PS in place of the 250W that had been in the computer. This had no effect, so I returned the 250W one to the computer. The 250W power supply had an LED on the back of the PS indicating (I suppose) that the standby power was up.

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What I discovered was that if I waited to plug in the power cord again until after the LED went out, the oscillation I described above would NOT occur, even if both sticks were 1 GB PC3200 ones! It was as if the standby voltage was not coming up fast enough when the PS had totally discharged, but if you returned the A/C when the LED had just gone out all was fine regardless of the RAM.

Since I did not want to give someone a computer that could go into a power oscillation like I describe above, I wired in a reset button as this computer did not come with one. After establishing that the reset button did work properly, I wanted to see if pushing the reset button could stop the oscillation if pushed. It did not! So it seemed if the 2 GB of PC3200 RAM was installed, and power was to be restored after something like a power failure, the oscillation would occur. I could not live with this possibility.

Since I wanted to install as much memory as possible in the computer, I experimented to see if something less than the 2 GB of RAM would have the same problem. It seems that as long as both sticks were not the 1 GB sticks, everything worked fine. I ended up installing one 1 GB stick of PC3200 and one 512 MB (high density) stick of PC2700. From that point on, it never failed as described above. So my question is this: Why did the computer fail to behave properly ONLY when power was completely removed and ONLY when two 1 GB sticks of PC3200 were installed???? Since it is no longer a problem, I am curious to understand what might have been happening. Any theories???

I would suspect wrong bios settings.
remove the battery for 15 minutes, or find the bios reset strap,
and let the bios initialize itself to factory settings.
Dont forget to put the reset strap back in its old position.

I appreciate your suggestion, but the computer power never really was applied in the failure I described. Hence the bios settings could not have come into play since there was no power to read them. Also, without having changed any of them, they worked for a boot when the power cord had not been removed with any combination of RAM.

Now I could be missing something. If so, I am open to what I am overlooking. My theory has to do with the standby voltage not coming up soon enough to reset the logic properly, but I do not understand why the size of the RAM has anything to do with it.

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