

Re: Using a lower-current adaptor with my laptop

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From: Barry Watzman (*WatzmanNOSPAM_at_neo.rr.com*)

Date: 06/08/04

Date: Tue, 08 Jun 2004 00:19:35 GMT

Re: "If the AC adapter is operated in excess of its capacity, the voltage drops and all manner of potential problems can be proposed"

More likely, however, are two different scenarios:

1. The adapter supplies the increased power, but it overheats, perhaps to the point of failure or damage [and, in rare cases that should not happen, even if the adapter is overloaded, fire].
2. The adapter senses that too much power is being drawn and "crowbars itself" — shuts down, totally, completely, instantly. Note, this is non-destructive, and if you then shut down, the adapter will be fine and will work again, but, of course, if overloaded again, it will shut down again.

To the original poster's question, if he never tries to run the computer AND charge a significantly discharged battery at the same time, he would likely [but not definitely] be ok.

Quaoar wrote:

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> eug k wrote:
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>>hi,
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>>I'm after a smaller/lighter adaptor for my thinkpad. The
>>laptop is rated at 16V, 3.36A. There's one that I'm
>>looking at that is rated at 16V, 2.2A. It also looks
>>a fair bit smaller. What I'm wondering is, can I safely
>>use it with my laptop?
>>
>>I get about three hours use on a 3.1AH battery, so the
>>actual current consumption is nowhere near 3.36A I'm
>>assuming. It also takes quite a long time to recharge,
>>so the charging current can't be too high either.
>>Apart from the coax power plug which may be different, is
>>there anything i'm missing out?
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>>*it's a thinkpad 240x, the adaptor's for another thinkpad.*

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>>*thanks!*

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> *The average power requirement is, with certainty, less than the peak*

> *power requirement. For example, if you are doing something as simple as*

> *defragmenting the HD, the power required during the defrag can be*

> *several multiples of the average power. Burning CDs is another heavy*

> *power consuming process. Only you can determine what the peak power*

> *requirement might be. Operating with an AC adapter that is rated too*

> *close to the average power requirement leaves little surplus for*

> *supplying the peak power. If the AC adapter is operated in excess of*

> *its capacity, the voltage drops and all manner of potential problems can*

> *be proposed: HD write failure, memory read/write failures, CPU*

> *auto-shutdown, overheating from reduced fan speed, adapter overheat/auto*

> *shutdown, etc. OTOH, depending on your computing habits, none of the*

> *above might apply.*

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> *Q*

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