RightHand Engineering LLC

Reducing PC Power Consumption

Here are some hints on reducing your PC power consumption.

Phantom Loads

Phantom loads are loads that are present even when you think that a device is turned off. Most PC systems use many devices with phantom loads. The best way to eliminate phantom loads is to use an electrical power "strip" with its own on/off switch. Plug all non-essential devices with potential phantom loads into the power strip and turn off the whole strip when you are in "low-power" mode. Devices with phantom loads generally use a wall-transformer and/or have displays, lights or fans which you can see or hear even though the device is "off".

Desktop PCs

- When not in use, turn off your video monitor. It is possibly the biggest power hog in your system. If you must leave your monitor on, use the Windows energy saving feature to automatically place it in standby after a specified idle period. Get at this control by clicking "Start", "Settings", "Control Panel", "Display", "Screen Saver".
- Have Windows automatically put your hard drive in low power mode when the hard drive has been idle for a time. It would be best to set your low-power wait timer to no more than 5 minutes. However, if you plan to interact with your PC often, you will not want to set the timer for much less than 5 minutes. Get at the power control by clicking "Start", "Settings", "Control Panel", "Power". If you plan to use this feature make sure to terminate all unnecessary software programs as some of these may periodically access your hard drive preventing it from going to low-power mode.
- When not in use, turn off your printer, scanner, etc.
- If your PC has a "Turbo" switch, switch it to non-turbo mode. This slows down the processor which in turn reduces the power consumption.

Laptop/Notebook PCs

By following these power saving tips, most laptop PCs can be reduced to 15 to 25 watt average power consumption.

- Remove all unnecessary accessories from your laptop; such as disk drives, CDROM drives, PC cards, modems, etc. Each of these use power even when they are not in use.
- Assuming you are powering your laptop from your inverter, it isn't necessary to use your laptop's battery. Removing the battery from your laptop will prevent the laptop's battery charger from drawing current from your system. However, consider that if you do this and your inverter shuts down, your PC will go down with it.
- Place your laptop in low-power mode. This is often done by pressing the special "Fn" key at the same time as one of the 10 or 12 function keys. The appropriate function key will likely be labeled with a battery or water faucet symbol. To configure the low-power options, click "Start", "Settings", "Control Panel", "Power". In low-power mode you will certainly want to turn off your LCD back light, hard disk drive, and reduce the processor speed if possible. It would be best to set your low-power wait timer to no more than 5 minutes. However, if you plan to interact with your PC often, you will not want to set the timer for much less than 5 minutes otherwise your hard disk will be continually turning off and on which may reduce its longevity. If you plan to use the hard drive low-power feature make sure to terminate all unnecessary software programs as some of these may periodically access your hard drive preventing it from going to low-power mode.
- If your PC has a DC power cord and its DC power requirements are compatible with your inverter battery system, you will likely save a few watts by using DC power rather than the laptop's AC power adapter. Be aware, however, that during equalization the battery voltage of your inverter system may exceed the acceptable range of DC voltages that your laptop can handle. If unsure, check with your computer manufacturer and your inverter system designer.

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