

Solar Cells, Inverters, and Your Personal Computer

By Wes Edwards

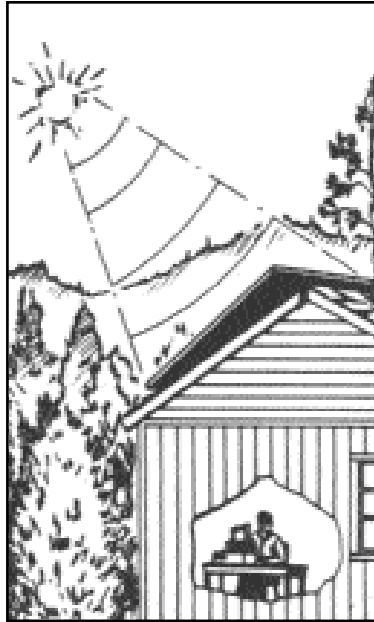
I hear this question often: "Can I run my computer with an inverter?" The answer is yes, but there are some things you should know.

Simply stated, an Alternative Energy System consists of a source of electricity (usually solar electric modules called photovoltaics), a storage battery or batteries (so you can have continuous power), and an electronic device called an inverter. The inverter changes the battery voltage (usually 12 volts DC to 120 volts AC electricity).

Today's inverters are a far cry from earlier ones. My first inverter used as much power as my computer just to turn it on. The newer ones draw less than one watt when they are turned on.

Voltage Spikes and Drops

I have discovered that when you plug into an inverter and turn the computer on, there is a "spike" that precedes the 120 volts AC. This could damage your computer. To protect against this problem, turn on a lamp (that is also plugged into the inverter)



Solar cells and PCs work well together.

before you turn on the computer. This absorbs the "spike" and pulls the inverter into the "on" mode.

Another potential problem can occur when a large appliance (washing machine, microwave, etc.), that is con-

nected to the inverter is turned on while the computer is on. A slight voltage drop will occur and cause the computer to crash. To guard against this, I use two inverters - a small one for the computer and a larger one for the rest of the house.

Finally, what works and what doesn't? For inverters, I recommend both Trace and Heart. The computers that I know work are: IBM, all IBM clones, and Apple Macintosh. Others may also work. All hard discs that I have tried work with inverters, as do all impact.type printers.

Some laser printers have problems. The HP family of laser printers function properly, but the Apple laser printers do not. For in Apple Macintosh, I use a Qume postscript laser printer. It has an output comparable to any other laser printer and does not mind the inverter.

(Wes Edwards has lived "off the grid" in northern California since 1974. His home and business are powered by photovoltaics and a small hydroelectric plant. He invites your inquiry to P. O. Box 936, Redway, CA 95560. Telephone: (707) 986-7709.)
