



Power “Vampires”: The Silent Power Thieves.

Q: What is a power vampire?

A: A power vampire is any electrical or electronic appliance or device that draws electrical power even when it is OFF. Power vampires are also devices that are intended to remain ON and in a so-called standby mode. Just like their undead human counterparts, power vampires draw their power from an unwitting host – YOU (actually your wallet!!).

Q: Why do power vampires exist?

A: Power vampires exist because electronic device manufacturers try to make their products as convenient and “user friendly” as possible. Part of this user-friendliness is the instant on feature that busy people desire from their electronic devices.

Q: What are some examples of power vampires?

A: Power vampires come in all shapes and sizes. The most common are components that connect to computers, such as computer monitors, DSL and cable modems, printers, peripheral speaker systems and scanners. Many of these devices remain “ON” and drawing electrical power even when the computer is turned off and when it is unnecessary for these devices to be turned on.

The most common power vampires are the so-called “wall warts” or the small transformer adapters that are included with many electronic devices (see Figure 1.) You can recognize power vampires in their various forms quite easily. Any piece of electronic equipment or electrical apparatus that has a power indicator (i.e. light or LED) that glows even when the device is OFF is a potential power vampire. Some power vampires are unavoidable and desirable, like answering machines or digital clocks. Even modern appliances like refrigerators and stoves are power vampires to varying extents. And the modern television set is another frequently overlooked power vampire. In fact, any electronic device or appliance with a remote control draws this illicit power and costs you extra money.

Some typical power vampire devices and the power they consume while OFF are shown in Table 1.

Figure 1. Typical “Wall Wart.”**Table 1. Typical Power Vampire Devices Versus Power Draw.**

Component/Device	Type	Standby Power Range (Watts)
CRT Computer Monitor	Computer Peripheral	30-80
LCD Computer Monitor	Computer Peripheral	10-35
DSL Modem	Computer Peripheral	3-10
Inkjet Printer	Computer Peripheral	5-15
Laser Printer	Computer Peripheral	10-25
Peripheral Speaker System	Computer Peripheral	1-10
Wireless Router	Computer Peripheral	1-10
FAX Machine	Device	0.5-5
Answering Machine	Device	1-5
Cable Receiver Box	Device	5-10
Satellite Receiver Box	Device	5-10
VCR	Device	1-5
DVD Player	Device	1-5
Stereo Receiver	Device	1-10
Cell Phone Charger	Device	0.05-1
Range	Appliance	1-5
Microwave Oven	Appliance	0.5-5
Coffee Maker	Appliance	0.1-2

Q: How Do I Stop These Power Thieves?

A: The answer can be found in two words: UNPLUG THEM! If they are not plugged in, then they do not draw power. It’s as simple as that! Crucifixes and garlic may put two-legged vampires in their place, but the only way to stop the power thievery going on in your home is to unplug the offending electronic device! Having said this, there are certain vampires that we can’t live without: The answering machine, the microwave oven, and if you have one, the FAX machine all must remain plugged in and in standby mode. The answering machine and the FAX must always be available to answer an incoming telephone call. And in a nod to convenience, the microwave oven must remain plugged in if we want instant access to a warm meal. But the remainder of the power vampire devices only need to be turned ON when they are necessary, and then turned OFF to conserve power when they are not being used.

There are several ways to remove power from the power vampires associated with a computer system, which as you can see in Table 1 are typically the larger offenders in terms of power loss. The first is the full manual method where you unplug your peripheral components after every use and then plug them in when you want to use them. Let’s face it, this can be annoying and will only be as effective as the dedication of the person responsible for this task. The second method is to plug the computer and all its peripheral components into an AC power outlet strip, as shown in Figure 2. These power strips are available at most major retailers, hardware stores and office supply stores. Their prices range from \$5 to \$25 dollars, depending upon their ratings and features. Again, this method will only be as effective as the dedication of the person responsible for this task.





Figure 2. Typical Manual AC Outlet Power Strip.



The third method, and most foolproof method, is to purchase an automatic AC Outlet Power Strip. This power strip sense the power draw of a “Control” outlet and then accordingly switches several “Controlled” outlets ON or OFF. These automatic outlets are more expensive than their manual counterparts, but they do have the advantage of

being foolproof. These automatic outlets are available online, and the manufacturers and costs for several different power strips are shown in Table 2.

Table 2. Automatic AC Power Outlet Strips.

Manufacturer	Model Number	Where Available	Price Range	Picture
Bits Limited	LCG3 (10 Outlets)	Bed, Bath and Beyond, ACE Hardware	\$30-\$40	
	SCG3 (7 Outlets)	Bed, Bath and Beyond, ACE Hardware	\$18-\$25	
Legrand (Wattstopper)	Isolé® IDP-3050 (8 Outlets) (with occupancy sensor)	Online Only	\$85-\$100	
Belkin	Conserve BG108000-04 (8 Outlets) (with infrared wireless remote)	Staples, Online	\$45-\$55	

Q: How Much Money Can I Expect to Save After I Vanquish My Power Vampires?

A: The answer to this question of course depends upon your electricity rate that you pay. In the first quarter of 2009, the electricity rate is in the range of 10-14 cents per kilowatt hour. The Electrical Power Research Institute estimates that the Average American citizen wastes 5-8% of their total energy consumption on power vampires. This is not an insignificant amount of power, or an insignificant amount of money savings.

The amount of money that you can save each year is determined by the following equation:

$$\text{Money Savings (\$/year)} = \text{Amount of Power Saved (Watts)} * \text{Cost of Power (\$/kWh)} * 8.76$$

For example, if you save 30 Watts with your energy conservation efforts and your electricity rate is 14 cents/kWh, then you will save:

$$\begin{aligned}\text{Money Savings (\$/year)} &= 30 * 0.014 * 8.76 \\ &= 3.68\end{aligned}$$

So, you can expect to save \$3.68 per year. If you save 75 Watts, which is not an unrealistic number, then you can expect to save \$9.20.

If you purchased the 7 outlet automatic power strip, then you can expect a payback of 3 years for your investment.

Not everyone can expect such a payoff period, but if your goal is the conservation of energy and leading a green lifestyle, then the investment in one of these energy-saving methods is worth the money spent. Wasted power serves no useful purpose, so why not try to rid yourself of the “Curse of the Power Vampires?”