

Acknowledging and Reducing Phantom Loads

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In a typical U.S. home, appliances and home electronics represent about 20% of your energy bills. By limiting “phantom loads” you can significantly lower your energy bill. Simply put, a phantom load is the energy drained by your home appliances and electronics when they are not directly in use. It has also been referred to as leaking energy, idle current, and vampire energy. Because households often keep regularly-used items plugged in at all times, the U.S. Department of Energy estimates that $\frac{3}{4}$ of the energy used to power appliances and electronics is consumed while the products are turned off. For example, a television uses energy even while turned off as it waits for a signal from your remote. Similarly AC adaptors and chargers (for cell phones, laptops, etc.) constantly use energy while waiting for something to be connected.

Phantom loads vary by product, and standby modes typically consume 10 to 15 watts per device. As people have become more aware of this issue, some products now identify the amount of watts used when “off” and others offer a “real-off” in which no power is drained. In fact, the U.S. government and the European Union are moving toward using office electronics with standby modes of less than 1 watt phantom load. However, despite these initiatives, low phantom load solutions are still the exception and can be difficult to find.

Until phantom load detection and real-off features become more common, there are other ways to reduce your phantom loads.

- Unplug all appliances and electronics when not in use (this has the added benefit of increasing their life expectancy). To limit the number of plugs, use power strips and turn the switch off when you are not using the attached electronics. Once the strip is turned off, energy will not travel to the other components.
- Regularly replace batteries on items such as cordless home phones to reduce the necessary charge time.
- Use a Kill-A-Watt reader (\$20–\$30). This device will display the wattage used by electronics, helping you become aware of your consumption and learn where you can cut back. (Watts Up? is a



similar product that can track consumption and transmit the data to your computer. It costs \$120–\$200+ depending on features.)

- Invest in SmartStrip Power Strips (\$30–\$40). These provide all the protection of a surge protector while eliminating the phantom load. These power strips can recognize when an item such as your TV is turned off and subsequently turn off the home audio system, DVD player, set-top-box and any other peripherals. Smart power strips do have a minimal phantom load of 0.2–0.4 watts. (Wattstopper is a similar product but typically costs \$90–\$100.)

If you have decided to lower your phantom loads with power strips and surge protectors, it is important to note some basic safety rules to prevent electrical fires.

- Do not use strips with frayed or visible wiring.
- Do not use strips that become overly warm to the touch.
- Do not use strips that have a cord longer than 6 feet.
- Use only one strip per dual outlet and do not connect multiple power strips to each other.
- If using a surge protector, choose one that protects against surges of 600 joules or more (the SmartStrip protects up to 2225 joules) and look for a surge protector with an indicator light that tells you if the protection components are functioning.
- Check your strips every 3–6 months for the above features and replace as necessary. With proper care strips can last for many years.

For more information on phantom loads and energy consumption visit:

<http://www.energy.gov/applianceselectronics.htm> (Department of Energy overview)

<http://awesome.goodmagazine.com/transparency/008/trans008vampireenergy.html>

(Phantom loads by product category)

http://oahu.lbl.gov/cgi-bin/search_data.pl (Standby power usage by product type and brand)