

Energy Efficiency:

PHANTOM LOADS

Phantom loads occur when an electrical appliance consumes electricity even though the device is turned “off.” Seemingly insignificant amounts of energy that are ALWAYS being consumed really start to add up.

According to the U.S. Department of Energy, 75% of the electricity used in the average home to power electronics is consumed when the appliances are turned “off.” Televisions, DVD players, VCRs, stereos, computers, cell phone (or other hand held device) chargers, and many kitchen appliances all have **phantom loads, wasting electricity and your money**. Any appliances with electronic displays (such as lights and clocks) that are always illuminated have phantom loads.

Below is a chart with some examples of appliances that have phantom loads and the estimated associated energy and environmental costs.

Appliance	Watts	Hours/Day	Annual Cost (\$0.12/kWh)	Annual Emission of CO ₂ (lbs.)*
Cell Phone Charger (not charging)	1	20	\$0.88	9.5
Microwave (with a digital clock)	1.5	22	\$1.45	15.7
X-Box 360 Gaming Console	2.5	20	\$2.19	23.7
Coffee Maker (with a digital clock)	3	22	\$2.89	31.3
Inkjet Fax	5	12	\$2.63	28.5
Stereo (digital display)	10	20	\$8.76	94.9
Cable Box	11	20	\$9.64	104.4
Desktop Computer (sleep mode)	20	12	\$10.51	113.9
Television (40" LCD)	25	20	\$21.90	237.3
Digital Video Recorder (DVR)	25	24	\$26.28	284.7

* 1.3 lbs. of CO₂ emitted per kWh from natural gas.

The great news is that eliminating phantom loads is easy and inexpensive (or even free)!

First, try to be aware of every appliance in your home that is plugged in. Does that appliance need to always be plugged in? If you only use the coffee maker occasionally or have an alarm clock in the guest room, try unplugging them when not in use.

For devices that you use regularly like TVs, stereos, DVD players, video gaming systems, and computers, using power strips is a convenient way to eliminate phantom loads. Power strips allow for several appliances to be plugged into the same outlet. When not in use, switch off the power strip and completely eliminate the associated phantom loads.

There are a variety of types of power strips available. Power strips oftentimes act as surge protectors as well. Using a power strip that does not have surge protection can still eliminate phantom loads but will not protect your appliances against power surges that can damage sensitive electronics (TVs, Computers, etc.).

Selecting a power strip surge protector that can handle up to 1,000 joules and 40,000 amperes will protect your equipment against most surges from large appliances and from the grid. Investing in a power strip with this amount of protection will increase the life of the surge protector and better protect your equipment. To protect your sensitive equipment from lightening, consider either unplugging appliances in large storms or investing in a whole-house surge protector (\$200 – \$1,000).

Source: U.S. Department of Energy



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