

## Guidelines for Transformer Use

**75 watts-** for use with small radios, tape recorders, heating pads, and sewing machines.

**300 watts-** for use with large radios, most stereo systems, electric blankets, mixers, warming plates, TV sets, VCRs, and small/medium fans.

**500 watts-** for use with floor polishers, refrigerators, and blenders.

**750 watts-** for use with small irons, percolators, coffeemakers, and freezers.

**1000 watts-** for use with small heaters, curling irons, and small hairdryers.

**1600 & 2000 watts-** for use with toaster, roasters, broilers, cookers, frying pans, grills, hotplates, dishwashers, medium heaters, irons, vacuum cleaners, hairdryers, and motor-driven appliances.

**3000 watts-** for use with heaters and air conditioners.

**These are only estimates, be sure to check your appliances carefully before choosing a transformer.**

New transformers may be purchased at the PX, but check at your community thrift shop for used, working transformers at much lower prices.

## **TRANSFORMER INFORMATION:**

Electrical current in Germany is generally 220 volts with a frequency of 50 cycles per second, whereas stateside the electrical current is 110v/60 cycles. Some appliances won't run on the European current. For example, clocks will run at 5/6 of their normal speed and will lose time.

Unless they are labeled "dual voltage" appliances manufactured in the United States must be used with a transformer. Transformers "step down" the voltage of electricity but do not change the number of cycles per second.

Before you plug any appliance into a transformer, you must determine its' wattage. To do this, look on the back of the appliance for a small tag or plate that will give you either the WATTS or the AMPS. If listed in AMPS, simply multiply the number of AMPS by the VOLTS (which is 110 for an American appliance) to get the WATTS. For example an appliance marked 3 AMPS 110 VOLTS has a power rating of 330 WATTS.

Be very careful not to overload the transformer. Overloading is easy to do if you are using a multiple plug transformer and you forget to add up the wattages of the appliances plugged in. Transformers themselves use electricity (10%-20% of their rating), so this must be added to the wattages of the appliances in use to make sure that the transformer is at least equal to or slightly higher than the wattage being drained from it. This means that a 2000-watt transformer will use at least 200 watts of power while it is switched on--meaning that you can only plug in 1800 watts worth of appliances, or you will overload the transformer. This may result in fire, damage, or burnout. Additionally, transformers left connected while not in use will continue to draw current, so be sure to switch off or disconnect transformers when not in use.

It's often convenient to buy a small transformer for appliances such as radios used constantly in one room, and a large transformer for use in the kitchen where a number of appliances are used frequently. The transformer for kitchen use should be 1600 watts for larger. Refrigerators should be connected to transformers especially intended for that purpose to assure no interruption of refrigeration.

Your American-made lamps are useable overseas. You need only purchase plug adapters and 220 v. light bulbs. Both are readily available at your overseas Post Exchange.

This information provided to you courtesy of your local ACS Relocation office.  
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